

# LOS ANGELES, CA, DISTRICT

This district (total area about 230,000 square miles) comprises those drainage basins tributary to the Pacific Ocean that are in California between the Mexican boundary and Cape San Martin (about 265 miles north of the entrance to the Los Angeles Harbor). The lower Colorado River

drainage basin (below Lee Ferry, AZ) which is southeastern California, southeastern Nevada, southwestern Utah, and all of Arizona, except the northeastern corner; that part of the Great Basin that is in southern Nevada and southeastern California; and the southern Arizona that drain southward into Mexico.

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**Navigation**

**1. CHANNEL ISLANDS HARBOR, CA**

**Location.** On the coast of southern California about a mile northwest of Port Hueneme, 65 miles northwest of Los Angeles Harbor, and 345 miles south of San Francisco. (See Coast and Geodetic Survey Charts 5007 and 5202.)

**Existing project.** For details see page 33-2 of Annual Report for 1981.

**Local cooperation.** Fully complied with.

**Terminal facilities.** For details see page 33-2 of Annual Report for 1989.

**Operations during fiscal year.** A six-year, three-cycle dredging contract was designed and awarded in FY2000. The contract covers FY2001 through FY2006. Mobilization and dredging activities began in September 2000 and continued into FY2001. Project condition is good.

**2. IMPERIAL BEACH, SILVER STRAND SHORELINE, CA**

**Location:** Imperial Beach area is located in San Diego County on the southern end of the Silver Strand Peninsula, about 3.5 miles north of the United States-Mexico border.

**Existing project.** The authorized project consisted of a system of five stone groins, the most northern groin at the north end of the existing seawall of the U.S. Naval Radio Station, and four other groins spaced at intervals of about 1,000 feet to a point 400 feet south of Coronado Avenue (now Imperial Beach Boulevard). The General Reevaluation Report (GRR) is currently reviewing shoreline erosion improvement alternatives.

**Local cooperation.** City of Imperial Beach is the local sponsor.

**Operations during fiscal year.** Continued the General Reevaluation Report.

**3. LOS ANGELES – LONG BEACH HARBORS, CA**

**Location.** On the coast of southern California in San Pedro bay about 25 miles south of the city of Los Angeles, about 96 miles northwest of San Diego Harbor, and about 410 miles southeast of San Francisco Harbor.

**Existing project.** The project consists of four increments of dredging to be constructed in two stages - deepening the existing entrance channel for the Port of Los Angeles and providing new channels to existing and new port facilities. The dredge material will be used for fill to create Pier 400. Estimated cost (October 1998) for existing project is \$401,000,000 (includes an allowance for estimated inflation through the construction period), of which \$115,200,000 is Federal (\$114,900,000 Corps and \$300,000 U.S. Coast Guard) and \$285,800,000 is non-Federal.

**Local cooperation.** All items of local cooperation required under the terms of the previous authorizing acts have been fully complied with. See page 33-3 of Annual Report for 1981 for requirements under the terms of the 1976 Water Resources Development Act. The revised recommended project was changed due to the withdrawal of the Port of Long Beach on October 1, 1991. The Port of Los Angeles, the local sponsor, received credit, for advance work (Stage 1) performed per WRDA 1988. Project Cooperation Agreement executed March 18, 1997.

**Terminal Facilities.** Of the 82,553 feet of wharves in the Los Angeles Harbor, 75,729 feet are owned by the city and 6,824 feet are owned by private interests. The final report presented and recommended four project increments. Increment No. 2 would deepen the existing Los Angeles Harbor approach and entrance channels to Pier 300 to provide better access to dry bulk facilities. Increment No. 3 would further deepen the Los Angeles approach and entrance channel to Pier 300 and part of Pier 400, and deepen a south channel to provide access to the eastern side of Pier 400 and liquid bulk facilities. Increments No. 4 and 5 would extend Increment No. 3 of Los Angeles to provide access to container terminals that would be located on part of Pier 300 and Pier 400. The material obtained from the dredging was used to create new landfill within the port and shallow water habitat for the least tern.

**Operations during fiscal year.** An Assessment Report of the San Pedro Breakwater continued from FY2000 and is expected to complete in FY2002. Maintenance dredging was performed in the Los Angeles River Estuary. A Long-Term Disposal Management Plan and a Pilot Project were initiated. Project condition is good.

**4. MARINA DEL REY, CA**

**Location.** Marina del Rey is located on Santa Monica Bay, 15 miles west of downtown Los Angeles, 29 miles northwest of Los Angeles Harbor and 390 miles southeast of San Francisco Bay.

**Existing project.** For details see page 33-3 of Annual Report for 1981. Existing Federal navigation project

consists of two jetties a breakwater and navigation channels. Contaminated materials, causing costly maintenance and a potential threat to navigation, complicate a severe shoaling problem in the harbor.

**Local cooperation.** County of Los Angeles Department of Beaches and Harbors requested a new study, and expressed local support by letter dated August 5, 1992. Feasibility Cost Sharing Agreement signed February 21, 1997.

**Terminal facilities.** Marina del Rey is homeport to about 15 commercial fishing boats and 50 other transit boats with an annual fish catch valued at approximately \$10 million. There are about ten charter boat and five tour boat operations used by over 100,000 people each year and over 6,000 berths servicing recreational craft within the harbor. Eight yacht clubs call the marina homeport. The marina offers sailing instruction, boat rental, repair and storage, harbor tours, sport fishing, retail facilities, coffee shops, snack bars and fine restaurants. The U.S. Coast Guard has a cutter permanently assigned to the harbor.

**Operations during fiscal year.** A hydrographic survey of the harbor was conducted. A Dredging Disposal Pilot Project supported by WES was initiated. Environmental evaluations and studies were conducted. Project condition is good.

## 5. MORRO BAY HARBOR, CA

**Location.** On coast of southern California 110 miles south of Monterey Bay, 120 miles northwest of Santa Barbara Harbor, and nearly midway between San Francisco and Los Angeles. (see Coast and Geodetic Survey Chart 5387).

**Existing project.** For details, see page 33-4 of Annual Report for 1980.

**Local cooperation.** Project Cooperation Agreement executed on April 7, 1995.

**Terminal facilities.** Facilities which are adequate for existing commerce, comprise 640 feet of existing piers and 150 feet of floating docks constructed by San Luis Obispo County; 263 feet of floating docks constructed by California Department of Parks and Recreation; 1,396 feet of floating docks constructed by the city of Morro Bay; 1,398 feet of privately-owned piers; and 5,435 feet of privately-owned floating docks.

**Operations during the fiscal year.** Annual contract maintenance dredging was performed.

## 6. NEWPORT BAY HARBOR, CA

**Location.** Forty miles southeast of Los Angeles.

**Existing project.** Provides rubblemound entrance jetties, 920-foot deep and 500-foot wide entrance channel and main channel, inner channels, a turning basin, and anchorage areas. Upper Newport is a shallow 800-acre marine estuary. Navigation project is maintained by Corps of Engineers. Pursuant to Section 841 and subject to Section 903(b) of WRDA 1986, the project for navigation for the harbor is modified to dredge and maintain a 250-foot wide channel in Upper Newport Bay to the boundary of Upper Newport Bay State Ecological Preserve to a depth of 15 feet.

**Local cooperation.** In a resolution dated August 20, 1996, Orange County Board of Supervisors indicated strong support of feasibility study and understanding of cost sharing requirements.

**Operations during fiscal year.** A hydrographic survey of the harbor was conducted. Project condition is adequate.

## 7. OCEANSIDE HARBOR, CA

**Location.** On the coast of southern California at Oceanside, about 30 miles north of city of San Diego and 80 miles south of Los Angeles.

**Existing project.** For details, see page 33-4 of Annual Report for 1981.

**Local cooperation.** Fully complied with. Oceanside Small Harbor Craft District sent letter of support dated April 1985 and Letter of Intent in March 1989. Project Cooperation Agreement executed in January 1993.

**Terminal Facilities.** Berthing for 957 boats, single-tie slips, 38 double-tie slips and 136 side-ties, of which 54 are visitors' slips; 12 dry storage spaces at Oceanside Marine Center; a fuel dock; a boat hoist; a launching ramp, which can accommodate 4 launchings at the same time; parking for 1,732 cars; with temporary parking for about 141 boat trailers; a boat-repair facility; a pump-out facility; a Coast Guard cutter; restaurants; retail stores; yacht brokers; a hotel/motel; condominiums; and a sport-fishing facility. Navigation improvements include new dredging and biannual dredging of expanded entrance channel area.

**Operations during fiscal year.** Annual contract maintenance dredging was performed. Project condition is fair.

## 8. OCEANSIDE HARBOR SAND BYPASS, CA

## **REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FISCAL YEAR 2001**

**Location.** On the coast of southern California along Oceanside Beach near jetty, about 30 miles north of city of San Diego and 80 miles south of Los Angeles.

**Existing project.** Underwater experimental pumping system with the pumps, fluidizers, and submerged pipeline to remove sand from harbor entrance and deposit it to down-coast beaches, on a continual basis. Phase I and Phase II have both been completed and successfully tested. The experiment is complete and we have determined the bypass technology can be installed with a successful operation but, not at Oceanside.

**Local Cooperation.** City of Oceanside officials support closure of the experimental bypass project.

**Operations during fiscal year.** Project close out completed.

### **9. PORT HUENEME, CA**

**Location.** On the coast of southern California about 65 miles northwest of Los Angeles and Long Beach Harbors, about one mile southeast of Channel Islands Harbor, immediately west of the city of Port Hueneme, four miles southwest of the city of Oxnard, and 10 miles southeast of the city of Ventura.

**Existing Project.** Authorized in 1970 for restudy of completed project. The harbor serves both military and commercial uses with port facilities consisting of terminals, wharves, and warehouses serving a wide variety of products. The existing Federal project consists of an approach channel, entrance channel, central basin, and two rubblemound jetties. The Navy has plans to utilize the harbor more extensively for vessel berthing and repair; effectively reducing maneuverability in the harbor. Harbor District would like to use deeper draft wood pulp carrier vessels and possibly tankers.

**Local cooperation.** Requirements are described in full on page 33-3 of Annual Report for 1976. The Oxnard Harbor District reviewed and agreed to sign the Feasibility Cost Sharing Agreement on January 3, 1996.

**Operations during fiscal year.** A hydrographic survey of the harbor was conducted. Project condition is good.

### **10. PORT OF LONG BEACH (DEEPENING), CA**

**Location.** On the coast of southern California along the Pacific Coast in San Pedro Bay about 20 miles south of downtown Los Angeles.

**Existing Project.** The recommended plan consists of

deepening the approach channel to -76 MLLW, from breakwater seaward, a distance of about 2 miles to accommodate deep draft crude tankers. WRDA 1996 authorized project in accordance with the July 1996 Chief of Engineers Report. The estimated cost of the project (October 1998) is \$43,350,000.

**Local cooperation.** The Port of Long Beach is the local sponsor. The Project Cooperation Agreement was executed in July 1998.

**Operation during the fiscal year.** Dredging to -76 feet MLLW of the approach channel was completed in December 2000. Prior condition survey indicated that turning basin and navigation channel inside the harbor were not dredged by POLB to -76 feet. Anticipated cost to complete project is within project cost estimate.

### **11. REDONDO BEACH HARBOR (KING HARBOR), CA**

**Location.** On the coast of southern California on the southern portion of Santa Monica Bay, about 17 miles southwest of Los Angeles.

**Existing project.** For details, see page 33-4 of Annual Report for 1981. WRDA of 1986 (H.R. 6) Conference Bill, Title VIII - Project Modification, Section 809 - King Harbor, Redondo Beach, CA, modifies the King Harbor Project in order to carry out maintenance dredging and for breakwater construction, and authorized the Secretary to restore the breakwater to a height of 22 feet and maintain breakwater at such height to provide greater protection from heavy wave action.

**Local cooperation.** City of Redondo Beach officials are in full support of the study and have indicated desire to construct improvements to reduce continued storm related damages.

**Operations during fiscal year.** No operations or maintenance were performed. Project condition is good.

### **12. SAN DIEGO HARBOR, CA**

**Location.** On the coast of southern California just north of the Mexican border, about 109 miles southeast of Los Angeles and Long Beach Harbors. (See Coast and Geodetic Survey Chart 5107).

**Existing project.** For details, see pages 33 and 34 of Annual Report for 1980.

**Local cooperation.** Requirements are described in full on pages 33 and 34 of Annual Report for 1980.

**Terminal facilities.** Consists of 45,070 feet of wharves, exclusive of Government-owned and 24,000 feet are privately owned. Government-owned wharves at North Island are restricted to military use only.

**Operations during fiscal year.** No operations or maintenance were performed. Project condition is good.

### 13. SAN DIEGO RIVER AND MISSION BAY, CA

**Location.** The project is located at the mouth of the San Diego River about six miles northwest of the San Diego business district, San Diego County, California.

**Existing project.** For details, see page 33-3 of Annual Report for 1991. Authorized by the Flood Control Act of 1944, the existing project consists of a levee channel, entrance channel, main channel, altered railroad bridge, anchorage basins (West Anchorage and Quivira) and three jetties. Construction of a 1,200-foot-long weir restored design conveyance capacity at the mouth of the San Diego River. A sand plug in mouth of river reduced flood-carrying capability from 115,000 cfs to 35,000 cfs, equal to a 100-year flood. The temporary timber pile breakwater at Quivira Basin was replaced with a permanent rubble mound breakwater.

**Local cooperation.** The Project Cooperation Agreement was executed July 1996 with the city of San Diego.

**Operations during fiscal year.** Engineering and Design efforts were initiated for periodic dredging requirements and to repair the Middle Jetty. Project condition is fair.

### 14. SANTA BARBARA HARBOR, CA

**Location.** On the coast of southern California, 90 miles northwest of Los Angeles Harbor.

**Existing project.** For details on original, see page 33-4 Annual Report for 1983. For reevaluation details see WRDA, 1986. The recommended plan includes acquiring a permanent dredge for the city and they will assume the operation and maintenance of the channel.

**Local cooperation.** See page 1015 of Annual Report for 1969, for items of local cooperation under 1962 authorized modification of existing project. The city reaffirmed its support on January 23, 2002.

**Operations during fiscal year.** Annual contract maintenance dredging (two cycle) was performed. A three year, six cycle dredging contract was completed and made available for award. Project condition is fair.

### 15. SANTA MONICA BREAKWATER, CA

**Location.** Santa Monica Breakwater is located seaward of the Santa Monica Pier, approximately 15 miles west of downtown Los Angeles. Existing breakwater is 2,000 feet long and lies 1,300 feet from the shoreline.

**Existing project.** The authorized project comprises reconstruction of 900 feet of the southern end of the existing breakwater to an elevation of +10 feet MLLW for storm damage prevention and constructing an offshore boulder-field for fish habitat. The local sponsor will provide 12 moorings and other boating support facilities to reestablish commercial boating opportunities. WRDA 1996 authorized the project. The estimated cost of the project is \$7,200,000 (Federal cost is \$4,700,000 which includes \$40,000 US Coast Guard; Non-Federal cost is \$2,500,000).

**Local cooperation.** City of Santa Monica, the local sponsor, indicated its support in July 1995 for the authorized project and its willingness and intent to execute the Project Cooperation Agreement.

**Operations during fiscal year.** None.

### 16. SURFSIDE, SUNSET AND NEWPORT BEACH, CA

**Location.** Project extends along Orange County coastline, 17 miles from San Gabriel River mouth downcast to Newport Bay Harbor entrance.

**Existing project.** Authorization Section 101 of Rivers and Harbors Act 1962. Modified by Chief of Engineers September 1963. Project is a periodic continuing construction project.

**Local cooperation.** State of California, Orange County, Cities of Newport and Huntington Beach, and Surfside Colony. Funding agreement with the State of California for Stage 11 was executed on August 9, 2001.

**Operations during fiscal year.** Beach replenishment contract for Stage 11 awarded September 2001.

### 17. VENTURA HARBOR, CA

**Location.** Located 65 miles northwest of Los Angeles and six miles northwest of Channel Islands Harbor.

**Existing project.** For details, see page 33-5 of the Annual Report for 1981. Reevaluation under WRDA 1990 consists of modification to the existing harbor by constructing a separate South Beach groin, extending the offshore breakwater, adding a spur groin to the north jetty and detached breakwater, and deepening and extending the entrance channel and sand trap.

## **REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FISCAL YEAR 2001**

**Local cooperation.** Fully complied with.

**Operations during fiscal year.** Annual contract maintenance dredging was performed. Repairs to the Detached Breakwater were initiated and completed. Project condition is fair.

### **17A. NAVIGATION/BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION**

**Navigation activities pursuant to Section 107, Public Law 86-645.**

Federal cost for Section 107 was \$265,386 of which \$259,401 was used for projects and \$5,985 was used for Coordination Account.

**Beach erosion control activities pursuant to Section 103, Public Law 87-874 (preauthorization).**

Federal cost for Section 103 was \$734,209 used for projects.

#### **Flood Control**

### **18. ALAMO DAM, AZ**

**Location.** About 70 miles southeast of Kingman, Arizona on the Bill Williams River, Arizona a tributary of the Colorado River.

**Existing project.** For details, see page 33-7 of Annual Report 1981.

**Local cooperation.** Fully complied with.

**Operations during fiscal year.** The Spillway Erodibility Study was completed. Routine operations and maintenance were performed. Project condition is fair

### **19. CLIFTON, AZ**

**Location.** Located on San Francisco River approximately 170 miles northeast of Tucson in Greenlee County, AZ.

**Existing project.** The project consists of both structural and nonstructural elements, including an earthfill levee about 3,000 feet long, with floodgates and floodwalls. Implementation will involve flood proofing of 11 businesses, flood plain evacuation plans, and recreation development. Estimated cost (October 1998) for existing project is \$24,100,000 (includes \$2,600,000 cash contribution and \$5,400,000 other costs). Construction of the levee and floodwall was completed August 1995 and turned over to sponsor December 1996. Completed non-structural relocation in December 1998.

**Local cooperation.** The State of Arizona, Division of Emergency Services, is the local sponsor. Project Cooperation Agreement executed on July 30, 1993.

**Operations during fiscal year.** Awarded recreation contract in June 2001.

### **20. HANSEN DAM, LACDA, (RECREATION DEVELOPMENT), CA**

**Location.** In the San Fernando Valley area of the city of Los Angeles about 20 miles northwest of downtown Los Angeles. Recreation lake and facilities lie within flood control basin boundaries.

**Existing project.** Original project authorized under Flood Control Act 1936, and modified by WRDA 1986, Section 847 Energy and Water Development Act 1992 (PL 102-104). Project consists of two phases. Phase 1 is the excavation of the lake, and rough grading of the roadways and building pad locations. Phase 2 is the construction of a 10.5-acre recreation lake, picnic facilities, access roads, parking lots, and landscaping.

**Local cooperation.** Project is 50/50 cost shared with the city of Los Angeles.

**Operations during fiscal year.** Coordination with local interests regarding expansion of the existing recreational facilities was on going throughout the year. Project condition is good.

**Local cooperation.** Riverside County Flood Control Water Conservation District signed a Local Cooperation Agreement March 27, 1992. Amended August 27, 1998 to reflect Federal expenditures for the flood control project at \$7,500,000.

**Operations during fiscal year.** None.

### **21. LOS ANGELES COUNTY DRAINAGE AREA, CA**

**Location.** Along Los Angeles and San Gabriel Rivers, Rio Hondo, and Compton Creek, CA.

**Existing project.** Project consists of channel improvement to lower Los Angeles, Rio Hondo Rivers, Compton Creek, and modification/replacement of as many as 27 bridges necessitated by the channel improvements. A map of the rehabilitation plan is in "General Design Memorandum, Los Angeles River Rehabilitation under the Major Rehabilitation Program," dated January 1984 and revised in March 1984. Estimated cost (October 1999) for existing project is \$200,000,000 of which \$150,000,000 is Federal and \$50,000,000 is non-Federal (includes \$43,968,000 cash contribution and \$6,032,000 other costs).

**Local cooperation.** In February 1992, the Los Angeles County Department of Public Works, the local sponsor, affirmed its support and willingness to financially participate in the construction of the project at a level consistent with the current cost-sharing policy for construction. The Project Cooperation Agreement was executed August 7, 1995.

**Operations during fiscal year.** Routine operations and maintenance activities were performed. Periodic Inspections at Hansen, Lopez, & Sepulveda Dams and Haines Canyon Debris Basin were completed early in FY2001. The Whittier Narrows Seepage Control Measures Contract was awarded in FY2000 with the work completing in FY2001. Log booms were designed and constructed for Hansen Dam and Santa Fe Dam. An Operations & Maintenance Efficiency Study was completed. Environmental consultants were contracted to produce the necessary documentation (i.e., Environmental Assessments) required to perform maintenance work (Arundo removal) in the soft-bottom flood control channels at Sepulveda Dam in the Los Angeles River and at Whittier Narrows Dam in the San Gabriel River. An 8(a) IDIQ contractor removed the Arundo that had significantly reduced the flowage capacity in both rivers. Project condition of Dams and Channels is good.

## 22. LOS ANGELES RIVER, SEPULVEDA TO ARROYO SECO, (RECREATION DEVELOPMENT), CA

**Location.** Upper Los Angeles River from Sepulveda Flood Control Basin (located 25 miles northwest of the city of Los Angeles) to the confluence of the Arroyo Seco channel, a distance of 20 miles.

**Existing project.** The Upper Los Angeles River consists primarily of a rectangular channel from the Sepulveda Basin to a point approximately four miles above the Arroyo Seco as a trapezoidal channel of the Arroyo Seco.

**Local cooperation.** Project is 50/50 cost shared with City of Los Angeles Department of Transportation.

**Operations during fiscal year.** Project close out completed.

## 23. MOJAVE RIVER DAM, MOJAVE RIVER BASIN, CA

**Location.** On Mojave River at the Forks site, just downstream from the mouth of Deep Creek and about 14 miles upstream from Victorville, in Mojave River Basin, CA.

**Existing project.** For details, see page 33-8 of Annual Report for 1983.

**Local cooperation.** None required.

**Operations during fiscal year.** Routine operations and maintenance activities were performed. Project condition is good.

## 24. NOGALES WASH, AZ

**Location.** At the Mexican Border, in extreme southern Arizona in central and northern portions of the city of Nogales, about 60 miles south of Tucson.

**Existing project.** Current plan includes a flood warning system in Mexico and United States. Estimated cost (October 2000) for existing project is \$560,000, \$420,000 of which is Federal and \$140,000 is non-Federal.

**Local cooperation.** Project Cooperation Agreement scheduled for execution in the last quarter of Fiscal Year 2002. Negotiating agreement with Mexico through U.S. International Boundary and Water Commission (IBWC).

**Operations during fiscal year.** Continue coordination with IBWC.

## 25. NORCO BLUFFS, SANTA ANA RIVER, CA

**Location.** Located approximately 40 miles southeast of Los Angeles, in the city of Norco, along a 3.75-mile stretch of the south bank of the Santa Ana River.

**Existing Project.** The project consists of a structural solution of revetted-buttress fill using existing and imported fill material one reach, a distance of one mile. The bluff stabilization protects a 65-foot-high bluff from further retreat into a residential neighborhood, which results when flood flows occur in the Santa Ana River. Estimated cost (October 2000) is \$15,000,000 of which \$11,250,000 is Federal and \$3,750,000 is non-Federal.

**Local cooperation.** Local sponsor, Riverside County Flood Control District. Project Cooperation Agreement executed in January 1999.

**Operations during fiscal year.** Phase II, additional buttress fill under design. Sponsor is pursuing land acquisition and construction access.

## 26. PAINTED ROCK DAM (GILA RIVER), AZ

**Location.** About 20 miles northwest of Gila Bend, and 120 miles southwest of Phoenix, Arizona.

**Existing project.** For details, see page 33-9 of Annual Report for 1981.

## **REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FISCAL YEAR 2001**

**Local cooperation.** Requirements are described in full on 33-9 of Annual Report for 1981.

**Operations during fiscal year.** Routine operations and maintenance activities performed. Project condition is good.

### **27. PINE AND MATHEWS CANYONS DAMS, COLORADO RIVER BASIN, NV**

**Location.** In Lincoln County, NV, about 100 miles north of Hoover Dam and about 17 and 20 miles, respectively, east of Caliente, NV.

**Existing project.** For details, see page 33-13 of Annual Report for 1981.

**Local cooperation.** Fully complied with.

**Operations during fiscal year.** Routine operations and maintenance activities were performed. Project condition is good.

### **28. RILLITO RIVER, AZ**

**Location.** The project is located in Tucson metropolitan area of Pima County, AZ.

**Existing project.** Plan of improvement includes: 1) an upstream equestrian staging area; 2) an upstream rest area; 3) a downstream rest area; 4) esthetic treatment planting; 5) construction of 16 pedestrian bridges; and 6) pending reauthorization to include extension of authorized project upstream along a portion of Tanque Verde Creek. Estimated cost (October 1998) for existing project is \$40,000,000 (includes an allowance for estimated inflation through the construction period), of which \$28,600,000 is Federal and \$11,400,000 is non-Federal. Flood control portion is \$34,215,468 and recreation is \$5,784,532.

**Local cooperation.** Pima County Transportation and Flood Control District submitted letters of assurance on February 24, 1986 and May 6, 1987. Project Cooperation Agreement (PCA) was executed in June 1994. Amendment to PCA for third increment was executed on September 16, 1998.

**Operations during fiscal year.** Continue work on Limited Reevaluation Report for Tanque Verde Creek.

### **29. SANTA ANA RIVER MAINSTEM, CA**

**Location.** Along a 75-mile reach of the Santa Ana River in San Bernardino, Riverside, and Orange Counties, emptying into the Pacific Ocean between the cities of Newport Beach and Huntington Harbor, 50 miles south of Los Angeles, and 90 miles north of San Diego.

**Existing project.** For details, see page 33-9 of the Annual Report for 1987. Plan of improvement: Seven Oaks Dam, management of overflow area - Seven Oaks to Prado; raise Mill Creek Levee; additional storage at Prado; improvements along: Oak Street Drain/Riverside Co., Santiago Creek/Orange Co., San Timoteo Creek/San Bernardino Co., and Lower Santa Ana River; recreation development: mitigation and preservation. The estimated

cost (October 2001) for existing project is \$1,436,000,000 (includes an allowance for estimated inflation through the construction period), of which \$976,000,000 is Federal and \$460,000,000 is non-Federal (includes \$80,020,000 cash contribution and \$379,980,000 other cost).

**Local cooperation.** Counties of San Bernardino, Riverside, and Orange. Project Cooperation Agreement was signed on December 14, 1989.

**Operations during fiscal year.** Continue engineering and design on the Lower Santa Ana River, Santiago Creek, Prado Dam and San Timoteo Reach 3B. Completed construction on Lower Santa Ana River, Reach 8.

### **30. SANTA ANA RIVER BASIN AND ORANGE COUNTY, CA**

**Location.** On the Santa Ana River and tributaries and on other streams in Orange, Riverside, and San Bernardino Counties, CA.

**Existing project.** For details on units, see Annual Report for 1968.

**Local cooperation.** Fully complied with. Orange County Water District advocated an increase in water conservation at Prado Dam up to elevation 505 feet. Prado Basin includes significant riparian wetlands, including nesting areas of the endangered least Bell's vireo. The basin is currently under review as proposed critical habitat for the vireo.

**Operations during fiscal year.** Routine operations and maintenance activities were performed. Periodic inspections were initiated at Prado and San Antonio Dams. Log booms were designed and constructed for Brea and Carbon Canyon Dams. Environmental consultants were contracted to prepare the documentation required to perform maintenance work (arundo removal) in the soft-bottom flood control channels at Sepulveda Dam in the Los Angeles River and at Whittier Narrows Dam in the San Gabriel River. An 8(a) contractor removed the arundo that had significantly reduced the flowage capacity in both rivers. Project condition of dams and channels is good.

### **31. SANTA PAULA CREEK, CA**

**Location.** Santa Paula Creek is a tributary of the Santa



Clara River in the vicinity of the city of Santa Paula, Ventura County, about 16 miles from the ocean and approximately 60 miles northwest of downtown Los Angeles.

**Existing project.** Authorized by Flood Control Act of 1970, Public Law 91-611 (HD 443/80/1) and for details see Annual Report Fiscal Year 1991, page 33-10. Estimated cost (October 2000) for existing project is \$40,900,000, of which \$39,300,000 is Federal and \$1,600,000 is non-Federal (includes \$0 cash contribution and \$1,600,000 other costs).

**Local cooperation.** Ventura County Flood Control District. No authorization is required; therefore, the existing Section 221 Agreement is still binding and was amended in September 1996.

**Operations during fiscal year.** Phase 3 fish ladder contract awarded June 2001 and scheduled to complete September 2002.

### 32. SAN LUIS REY RIVER, CA

**Location.** Along the lower 7.2 miles of the San Luis Rey River, in and around the city of Oceanside, San Diego County, about 86 miles south of Los Angeles.

**Existing project.** A double levee, 5.4 miles long; stone protected channel with a soft bottom; 1,330 feet of parapet walls at the ocean on the north and south levees; six interior drainage ponds; and a five-mile bike trail. The Water Resources Development Act of 1996 reauthorized the project. Estimated cost (October 1998) \$81,600,000 of which \$61,100,000 is Federal and \$20,500,000 is non-Federal (including \$4,100,000 cash contribution).

**Local cooperation.** Final Local Cooperation Agreement signed by city of Oceanside and Secretary of Army May 13, 1988.

**Operations during fiscal year.** Initiated biological assessment for O&M plan.

### 33. SEPULVEDA DAM, (RECREATION DEVELOPMENT), CA

**Location.** The project is located between the communities of Encino and Van Nuys and 15 miles northwest of Los Angeles.

**Existing project.** Flood Control Act 1936 and Public Law 77-387 1941, and 1989-1972. Primary project purpose is flood control. Subsequent Act of Congress authorized a secondary project purpose for park and recreation.

**Local cooperation.** Recreation project is 50/50 cost shared

with the city of Los Angeles. Federal funds will complete Lake Balboa and park with comfort station, trails, fencing, irrigation, childrens play area, revegetation and develop an additional wildlife area. The city will continue reclaimed water distribution and develop several park areas.

**Operations during fiscal year.** Project construction physically completed January 1999 Coordination with local interests regarding expansion of the existing recreational facilities was on going throughout the year. Project condition is good.

### 34. SWEETWATER RIVER, CA

**Location.** The project empties into San Diego Bay in the city of Chula Vista and National City and unincorporated San Diego County, four miles south of the city of San Diego, and eight miles north of the Mexican Border.

**Existing project.** Construction of 3.2 miles of channel improvements along the Sweetwater River from Interstate 805 to San Diego Bay, in combination with State Route 54 and Interstate 5 construction; and construction of two railroad bridges and 188 acres of preservation and mitigation land.

**Local cooperation.** San Diego County signed 221 Agreement in December 1984.

**Operations during fiscal year.** None.

### 35. TROPICANA AND FLAMINGO WASHES, NV

**Location.** The project area is located west of and through urbanized Las Vegas community along both Tropicana and Flamingo Washes in southern Nevada.

**Existing project.** The recommended plan will provide urban flood reduction, erosion control and wildlife enhancement for portions of Las Vegas and the surrounding areas to the west and southwest, including the rapidly developing alluvial fan immediately west of Las Vegas. The plan recommends construction of three debris basins, three detention basins, modifications to two existing detention basins, 28 miles of channels connecting these project elements, 43 miles of lateral collectors, environmental mitigation, and recreation facilities. The estimated cost (October 2001) for the existing project is \$291,000,000 (includes an allowance for estimated inflation), of which \$214,800,000 is Federal and \$76,200,000 is non-Federal (includes \$28,800,000 cash contribution and \$47,400,000 other costs).

**Local cooperation.** The Clark County Regional Flood Control District and the Department of Public Works are the

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local sponsors for flood control. The Clark County Recreation Department is the potential local sponsor for the recreation feature. The Project Cooperation Agreement (PCA) was executed on February 7, 1995. The Section 211 PCA was executed December 17, 1999. Clark County was reimbursed \$1.6 million for Section 211 work.

**Operations during fiscal year.** Completed construction of Blue Diamond Dam, Lower Red Rock Channel, and Blue Diamond Beltway Channel, Segments 7B, 8, 9, and 10A. Completed construction of Lower Blue Diamond Channel and Tropicana Outlet Channel.

### **36. TUCSON DIVERSION CHANNEL (RECREATION DEVELOPMENT), AZ**

**Location.** The Tucson Detention Basin and Diversion Channel are located in southeast Arizona. The project area initiates within the basin and proceeds approximately five miles downstream until it meets Interstate 19.

**Existing project.** The recreational development consists of a bicycle and hiking trail; four rest areas at the basin's inlet and outlet areas, near the intersection of Park Avenue and Ajo Way, across the street from Wakefield Middle School and near Interstate 19, where the project ends; four channel under crossing areas at Ajo Way (near the basin's outlet), Interstate 10; Kino Parkway; and Benson Highway; a restroom facility and five to seven car parking area located near the end of the project area; lighting at rest areas; benches; pedestrian bridges; and landscaping. The flood control channel maintains a 30-40 foot width, with an average 30-foot right-of-way on each side of the channel. The trail system is primarily located along the north bank of the channel.

**Local cooperation.** Pima County is the local sponsor.

**Operations during fiscal year.** None.

### **37. WHITLOW RANCH DAM, QUEEN CREEK, AZ**

**Location.** Fifty miles southeast of Phoenix, AZ in Pinal County, on Queen Creek, Arizona a tributary of Gila River, about 10 miles west of Superior, Arizona.

**Existing project.** For details see page 33-10 of Annual Report 1981. Project element earthfill Dam, circular conduit outlet works and reservoir.

**Local cooperation.** Fully complied with.

**Operations during fiscal year.** Routine operations and maintenance activities were performed. Project condition is good.

### **38. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS**

Section 3 of the Flood Control Act dated June 22, 1936, as amended, included a requirement that local interests maintain and operate completed flood control works in accordance with regulations prescribed by the Secretary of War. Inspections made throughout the year to determine effectiveness of operation and maintenance by local interests of completed local protection projects and works constructed under emergency and special authorities of Section 205 and 208 of the 1948 Flood Control Act, Section 14 of the 1946 Flood Control Act, and Public Law 99, 84<sup>th</sup> Congress. Fiscal year cost was \$660,880. See Table 33-I for inspections made this fiscal year.

### **39. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS**

In accordance with Section VII, Flood Control Act of 1944, studies of reservoir operations for flood control were conducted; and preparation of regulations for the use of storage allocated for flood control was continued. The flood control structures were Hoover, Twitchell, and Tat Momolikit Dams.

### **40. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION**

**Flood Control Activities Pursuant to Section 205 of the 1948 Flood Control Act, Public Law 858, 80th Congress, as Amended:**

Federal cost for Section 205 was \$746,472 of which \$740,299 was used for studies and \$6,173 for Coordination Account. See Table 33-J for list of projects.

**Emergency Streambank Protection Activities Pursuant to Section 14 of the 1946 Flood Control Act, Public Law 526, 79th Congress, as Amended**

Federal cost for Section 14 was \$81,283 of which \$57,773 was used for studies and \$23,510 for Coordination Account.

**Snagging and Clearing Navigable Streams and Tributaries in interest of Flood Control, Section 208, 1954 Flood Control Act, Public Law 780, 83d Congress.**

Federal cost for Section 208 was \$0.

**Modifications to Structures and Operations of Constructed Corps Projects to Improve the Quality of the Environment, Pursuant to Section 1135 of the 1986 Water Resources Development Act, Public Law 662, 99th**

**Congress, as amended.**

Federal cost for Section 1135 was \$7,890,588 of which \$7,884,429 was for studies and \$6,159 for Coordination activities.

**Aquatic Ecosystem Restoration Pursuant to Section 206 of Water Resources Development Act of 1986**

Federal cost for Section 206 was \$145,931 of which \$7,139 was Coordination Account and \$138,792 was Preliminary Restoration Plans.

**41. EMERGENCY RESPONSE ACTIVITIES - FLOOD CONTROL AND COASTAL EMERGENCIES**

Emergency Flood Control Activities - repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation).

**A. Disaster:** This program encompasses all the activities associated with preparedness, which includes preparation of plans and policy documents, exercises, training, coordination with outside agencies and governments, maintaining supplies and equipment, and the like.

**B. Operational Program Areas:** Fiscal Year cost for disaster preparedness was \$495,630; emergency operations cost was \$370,772; rehabilitation cost \$341,781.

**C. Emergency Work in Support of Other Federal Agencies.**

Support work was performed for Federal Emergency Management Agency (FEMA) following flooding in West Virginia and the Pentagon and World Trade Center disaster at a cost of \$50,000.

**General Investigations**

**42. SURVEYS**

Total Fiscal Year costs were \$7,028,200 of which \$1,058,892 was for navigation studies; \$984,856 was for flood damage prevention studies; \$521,942 was for shoreline protection studies; \$4,124,778 was for special studies; \$0 for review of completed projects; \$129,281 was for Miscellaneous Activities (includes \$68,315 for special investigations; \$0 for FERC licensing activities; \$48,241 for Interagency Water Resources Development; \$4,740 for National Estuary Studies; \$7,985 for North American Waterfowl Management Plan); and \$208,451 for Coordination Studies with other Agencies and Non-Federal Interests, (\$161,360 was for Planning Assistance to States

\$71,384 for Arizona, and \$89,976 for California).

**43. COLLECTION AND STUDY OF BASIC DATA**

Fiscal Year costs totaling \$281,262 were associated with the following tasks under the Flood Plain Management Services Program, FPMS Unit \$66,780; Technical Services \$92,644; Quick Responses \$5,106; and Special Studies \$103,475 and \$13,257 for hydrologic studies.

**44. PRECONSTRUCTION ENGINEERING AND DESIGN**

Fiscal Year expenditures were \$2,390,622 of which \$1,830,876 was for projects not yet authorized for construction and \$559,746 was for fully authorized projects.

**44A. LOS ANGELES HARBOR MAIN CHANNEL DEEPENING, CA**

**Location.** The project area is located at the Port of Los Angeles on the coast of southern California in San Pedro Bay, approximately 25 miles south of downtown Los Angeles.

**Existing project.** The proposed project would dredge 6.6 million cubic yards of sediment from the Los Angeles Main Channel, West Basin, East Channel, East Basin, and Cerritos Channel with disposal at Southwest Slip, Cabrillo Shallow Water Habitat and the LA-3 Offshore Disposal Area. The plan would also create approximately 40 acres of additional terminal space at Pier 300.

**Local cooperation.** The Port of Los Angeles and the Corps of Engineers executed the Design Agreement on April 18, 2001.

**Operations during fiscal year.** Initiated preconstruction engineering and design phase.

**44B. MURRIETA CREEK, CA**

**Location.** The project area consists of 220 square miles along Murrieta Creek within the overall 750-square-mile Santa Margarita watershed basin in Riverside and San Diego Counties, California

**Existing project.** The project watershed management will include flood control, environmental restoration, storm water retention, water conservation and supply and recreation related purposes along the Santa Margarita River and its tributaries.

**Local cooperation.** Riverside County Flood Control and

## **REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FISCAL YEAR 2001**

Water Conservation District and the Corps of Engineers executed the Design Agreement on February 23, 2001.

**Operations during fiscal year.** Initiated preconstruction engineering and design phase.

### **44C. RIO DE FLAG, FLAGSTAFF, AZ**

**Location.** The project is located partly within the city of Flagstaff and entirely within Coconino County, Arizona.

**Existing project.** The recommended project includes a channel and two detention basins.

**Local cooperation.** The City of Flagstaff and the Corps of Engineers executed the Design Agreement on April 18, 2001.

**Operations during fiscal year.** Initiated preconstruction engineering and design phase.

### **44D. RIO SALADO, PHOENIX REACH, AZ**

**Location.** The project area is located in Phoenix, Arizona, along 5 miles of the Salt River.

**Existing project.** Two sites have been identified with a Federal interest in environmental restoration involving riparian habitat restoration, water quality improvement and recreation that are incidental or complimentary to the primary project purpose. The first site is 1.5 miles of Indian Bend Wash, from McKellips Road downstream to the confluence with the Salt River in Tempe; the second site is located along 5 miles of the Salt River, from the Interstate Highway 10 Bridge to 19th Avenue in Phoenix.

**Local cooperation.** The City of Phoenix and the Corps of Engineers executed the Project Cooperation Agreement on June 4, 2001.

**Operations during fiscal year.** Completed design on Phase I (19<sup>th</sup> Avenue to Central Avenue) and awarded construction contract in September 2001.

### **44E. RIO SALADO, TEMPE REACH, AZ**

**Location.** The project area is located along 1.3 miles of Indian Bend Wash, from McKellips Road downstream to confluence with Salt River in Tempe, Arizona.

**Existing project.** There is a Federal interest in environmental restoration involving riparian habitat restoration, water quality improvement and recreation that are incidental or complimentary to the primary project purpose.

**Local cooperation.** The city of Tempe and the Corps of

Engineers executed the Design Agreement on February 25, 1999.

**Operations during fiscal year.** Continued plans and specifications on Indian Bend Wash.

### **44F. TRES RIOS, AZ**

**Location.** Project is located within the Phoenix metropolitan area of Maricopa County and includes a nine-mile reach of the Salt and Gila Rivers beginning at 83<sup>rd</sup> Avenue and continuing downstream to the confluence with the Agua Fria River.

**Existing project.** The feasibility report was completed in May 2000. The recommended plan will address flood control and riparian habitat restoration. The benefits of environmental restoration would be the potential for 1,200 acres of riparian and wetland habitats to be restored.

**Local cooperation.** A Design Agreement was executed with the City of Phoenix and the Sub-Regional Operating Group in January 2001.

**Operations during fiscal year.** Initiated the preconstruction engineering and design phase.

### **44G. TUCSON DRAINAGE AREA, AZ**

**Location.** Project is located along Tucson Arroyo/Arroyo Chico watershed, within the Tucson city limits in Arizona.

**Existing project.** Both the reconnaissance report and the feasibility study identified the Tucson Arroyo/Arroyo Chico watershed area (approximately 11.4 square miles) as the major drainage channel within downtown Tucson. The recommended plan has two main features consisting of two detention basin complexes - one on Arroyo Chico in the headwaters of the drainage area (referred to as Randolph Golf Course Detention Basin Complex), and one on Tucson Arroyo/Arroyo Chico in the approximate center of the watershed (referred to as Park Avenue Detention Basin Complex). The local sponsor completed the Randolph Golf Course Detention Basin Complex in May 1996 using Section 104 credit consideration.

**Local cooperation.** Pima County Flood Control District and the Corps of Engineers executed the Design Agreement on May 3, 1999.

**Operations during fiscal year.** Continue preconstruction engineering and design phase.

### **44H. UPPER NEWPORT BAY, CA**

**Location.** Project is located on the coast of southern California in Orange County, about 40 miles southeast of

Los Angeles, California.

**Existing project.** The feasibility report was completed in September 2000. The recommended plan includes entrance jetties, deepening and expanding the channel and two sediment basins to provide restoration measures to the degraded habitat areas and decrease the potential for habitat degradation in the future.

**Local cooperation.** The State of California-The Resource Agency, Department of Fish and Game, County of Orange and the Corps of Engineers executed the Design Agreement on October 10, 2001.

**Operations during fiscal year.** Initiated preconstruction engineering and design phase

#### **44I. WHITEWATER RIVER BASIN, CA**

**Location.** Project is located in Coachella Valley, and runs along cities of Palm Springs, Rancho Mirage, Palm Desert, Thousand Palms, Desert Hot Springs and other communities.

**Existing project.** Feasibility report recommended Alternative 6, which calls for four levees to provide protection for the southern portion of the alluvial fan.

**Local cooperation.** Coachella Valley Water District and the Corps of Engineers executed the Design Agreement on August 14, 2001.

**Operations during fiscal year.** Initiated preconstruction engineering and design phase.

**TABLE 33-A COST AND FINANCIAL STATEMENT**

| See<br>Section<br>In Text | Project                                     | Funding                      | FY 98                    | FY 99                    | FY00                    | FY 01                  | Total Cost<br>30 Sep 01                  |
|---------------------------|---|------------------------------|--------------------------|--------------------------|-------------------------|------------------------|--|
| 1.                        | Channel Islands,<br>CA                      | Maint:<br>Approp.<br>Cost    | 2,836,000<br>2,705,897   | 2,761,065<br>2,795,900   | 1,060,000<br>1,064,207  | 2,886,549<br>2,884,804 | 49,517,734<br>49,510,819                 |
| 2.                        | Imperial Beach, CA                          | New Work:<br>Approp.<br>Cost | 470,000<br>284,405       | 0<br>53,060              | 244,000<br>137,434      | 157,000<br>281,688     | 3,704,908<br>3,530,282                   |
| 3.                        | Los Angeles and<br>Long Beach<br>Harbor, CA | New Work:<br>Approp.<br>Cost | 34,975,000<br>34,621,306 | 57,000,000<br>57,039,881 | -13,000<br>405,352      | 1,662,000<br>1,716,869 | 113,064,000 <sup>1/</sup><br>113,046,607 |
|                           |   | Maint:<br>Approp.<br>Cost    | 1,664,000<br>1,690,138   | 1,264,000<br>1,777,478   | 620,000<br>662,713      | 4,991,592<br>4,929,691 | 22,955,134<br>22,887,538                 |
|                           | Model Study:                                | Maint:<br>Approp.<br>Cost    | 162,000<br>177,125       | 147,000<br>157,751       | 160,000<br>158,367      | 163,634<br>163,409     | 9,872,521<br>9,870,622                   |
| 4.                        | Marina del Rey,<br>CA                       | Maint:<br>Approp.<br>Cost    | 1,081,000<br>1,065,448   | 2,882,033<br>2,863,614   | 3,193,000<br>3,254,931  | 622,528<br>604,022     | 18,048,335<br>18,029,600                 |
| 5.                        | Morro Bay<br>Harbor, CA                     | New Work:<br>Approp.<br>Cost | 0<br>25,539              | 0<br>0                   | 0<br>0                  | 0<br>0                 | 1,524,000<br>1,474,261                   |
|                           |   | Maint:<br>Approp.<br>Cost    | 3,437,000<br>3,361,325   | 1,002,000<br>1,034,465   | 3,383,000<br>3,434,179  | 2,215,484<br>2,197,729 | 29,775,955<br>29,753,752                 |
| 6.                        | Newport Bay<br>Harbor, CA                   | Maint:<br>Approp.<br>Cost    | 605,000<br>332,009       | 1,554,000<br>1,818,904   | 39,000<br>39,200        | 35,914<br>41,790       | 4,598,614<br>4,596,140                   |
| 7.                        | Oceanside<br>Harbor, CA                     | New Work:<br>Approp.<br>Cost | 0<br>0                   | 0<br>0                   | 0<br>0                  | 0<br>0                 | 3,496,938 <sup>2/</sup><br>3,496,938     |
|                           |   | Maint:<br>Approp.<br>Cost    | 1,014,000<br>1,138,823   | 692,000<br>689,545       | 1,140,000<br>1,155,433  | 1,167,624<br>1,140,911 | 15,892,411<br>15,863,375                 |
| 8.                        | Oceanside Harbor<br>Sand By-Pass,<br>CA     | Maint:<br>Approp.<br>Cost    | -1,400,000<br>1,343,660  | 0<br>228,385             | 134,000<br>203,139      | 0<br>176               | 23,490,900<br>23,490,900                 |
| 9.                        | Port Hueneme,<br>CA                         | Maint:<br>Approp.<br>Cost    | 0<br>0                   | 152,935<br>160,570       | 1,422,000<br>1,410,006  | 0<br>12,807            | 3,056,100<br>3,055,917                   |
| 10.                       | Port of Long<br>Beach, CA                   | New Work:<br>Approp.<br>Cost | 4,135,000<br>583,170     | 8,279,000<br>4,941,257   | -1,047,000<br>5,858,648 | 2,200,000<br>2,083,333 | 14,317,000 <sup>3/</sup><br>14,164,141   |
| 11.                       | Redondo Beach<br>(King Harbor)              | Maint:<br>Approp.            | 200,000                  | 938,000                  | -4,000                  | 0                      | 6,669,343                                |

LOS ANGELES, CA, DISTRICT

TABLE 33-A

COST AND FINANCIAL STATEMENT

| See<br>Section in<br>Text | Project                                | Funding   | FY 98      | FY 99      | FY00       | FY 01      | Total Cost<br>30 Sep 01   |
|---------------------------|--|-----------|------------|------------|------------|------------|---------------------------|
|                           |  | Cost      | 101,201    | 1,026,039  | 6,111      | 0          | 6,668,647                 |
| 12.                       | San Diego Harbor, CA                   | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 37,000     | 0          | 0          | 0          | 5,502,191                 |
|                           |  | Cost      | 30,482     | 7,975      | 2,355      | 0          | 5,502,091                 |
| 13.                       | San Diego River and Mission Bay, CA    | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 0          | 0          | 0          | 0          | 7,884,345                 |
|                           |  | Cost      | 14,014     | 14,272     | 424        | 246        | 7,878,151                 |
|                           |  | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 0          | 0          | 33,000     | 20,000     | 5,884,242                 |
|                           |  | Cost      | 0          | 0          | 36,142     | 20,000     | 5,884,242                 |
| 14.                       | Santa Barbara Harbor, CA               | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 1,235,000  | 1,550,967  | 1,083,000  | 1,071,527  | 25,678,268                |
|                           |  | Cost      | 1,160,838  | 1,719,917  | 1,087,088  | 1,068,163  | 25,673,024                |
|                           |  | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 0          | 0          | 10,000     | 0          | 410,000                   |
|                           |  | Cost      | 1,860      | 7,665      | 4,766      | 4,968      | 409,081                   |
| 15.                       | Santa Monica Breakwater, CA            | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 1,409,000  | -1,099,000 | -135,000   | 7,000      | 407,000 <sup>9/</sup>     |
|                           |  | Cost      | 19,503     | 90,791     | 21,536     | 7,113      | 63,941                    |
| 16.                       | Surfside, Sunset and Newport Beach, CA | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 0          | 0          | 292,000    | 1,385,000  | 23,086,100                |
|                           |  | Cost      | 184,886    | 65,407     | 242,918    | 277,671    | 21,850,300                |
| 17.                       | Ventura Harbor (Ventura Marina), CA    | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 7,000      | -787       | 0          | 0          | 5,286,213                 |
|                           |  | Cost      | 0          | 12,846     | 0          | 0          | 5,286,213                 |
|                           |  | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 6,391,000  | 3,126,000  | 2,471,000  | 3,759,603  | 48,448,935                |
|                           |  | Cost      | 5,729,589  | 3,978,788  | 2,488,326  | 3,759,886  | 48,447,163                |
| 18.                       | Alamo Dam, AZ                          | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 974,000    | 936,000    | 958,000    | 991,493    | 19,597,352                |
|                           |  | Cost      | 1,389,276  | 1,014,326  | 990,791    | 1,007,139  | 19,587,200                |
| 19.                       | Clifton, AZ                            | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 2,160,000  | -105,000   | 370,000    | 285,000    | 14,610,000 <sup>4/</sup>  |
|                           |  | Cost      | 824,611    | 966,059    | 593,506    | 309,565    | 14,588,485                |
| 20.                       | Hansen Dam, LACDA, CA (Recreation)     | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 982,000    | 0          | 0          | 25,000     | 6,482,000                 |
|                           |  | Cost      | 330,598    | 1,541,652  | 121,150    | 50,047     | 6,475,072                 |
| 21.                       | Los Angeles County Drainage Area, CA   | New Work: |            |            |            |            |                           |
|                           |  | Approp.   | 16,941,000 | 50,744,000 | 35,475,300 | 14,422,000 | 147,198,100 <sup>5/</sup> |
|                           |  | Cost      | 16,246,471 | 50,625,406 | 33,273,990 | 14,248,683 | 143,548,937               |
|                           |  | Maint:    |            |            |            |            |                           |
|                           |  | Approp.   | 7,219,500  | 4,727,500  | 6,176,000  | 7,973,493  | 111,170,016               |
|                           |  | Cost      | 6,817,931  | 6,410,108  | 6,277,137  | 7,944,274  | 111,001,210               |

**TABLE 33-A COST AND FINANCIAL STATEMENT**

| See<br>Section<br>In Text | Project  | Funding                      | FY 98                    | FY 99                    | FY00                     | FY 01                    | Total Cost<br>30 Sep 01                   |
|---------------------------|--|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---|
| 22.                       | Los Angeles River, Sepulveda to Arroyo Seco, CA (Recreation) | Maint<br>Approp.<br>Cost     | 0<br>28,835              | 0<br>28,751              | 0<br>4,674               | 0<br>0                   | 400,000<br>398,855                        |
| 23.                       | Mojave River Dam, Mojave River Basin, CA                     | Maint:<br>Approp.<br>Cost    | 191,000<br>187,992       | 182,000<br>188,341       | 213,000<br>221,164       | 142,460<br>144,542       | 6,340,996<br>6,337,752                    |
| 24.                       | Nogales Wash, AZ   | New Work:<br>Approp.<br>Cost | 214,000<br>72,279        | 0<br>83,199              | 0<br>15,142              | 25,000<br>65,207         | 617,200 <sup>6/</sup><br>612,643          |
| 25.                       | Norco Bluffs, CA   | New Work:<br>Approp.<br>Cost | 1,000,000<br>101,739     | 4,400,000<br>2,152,527   | 2,404,000<br>4,826,561   | -312,000<br>338,102      | 7,672,000<br>7,511,200                    |
| 26.                       | Painted Rock, AZ (Gila River)                                | Maint:<br>Approp.<br>Cost    | 2,063,000<br>1,547,326   | 1,102,000<br>2,205,677   | 749,000<br>835,873       | 830,450<br>835,697       | 28,821,633<br>28,809,221                  |
| 27.                       | Pine & Mathews Canyons Dam, Colorado River                   | Maint:<br>Approp.<br>Cost    | 92,000<br>91,424         | 228,000<br>221,974       | 169,000<br>178,607       | 55,585<br>51,051         | 2,963,914<br>2,956,768                    |
| 28.                       | Rillito River, AZ  | New Work:<br>Approp.<br>Cost | 757,000<br>587,266       | 2,600,000<br>1,622,868   | 2,090,000<br>3,261,442   | 300,000<br>316,316       | 27,947,000 <sup>7/</sup><br>27,856,475    |
| 29.                       | Santa Ana River Mainstem, CA                                 | New Work:<br>Approp.<br>Cost | 70,916,000<br>66,607,143 | 37,507,000<br>39,429,995 | 37,787,700<br>40,442,313 | 18,293,000<br>18,936,338 | 683,947,700<br>668,634,684                |
| 30.                       | Santa Ana River Basin OC, CA                                 | Maint:<br>Approp.<br>Cost    | 3,067,000<br>2,802,171   | 3,716,000<br>4,105,912   | 2,795,000<br>2,890,071   | 4,280,363<br>4,302,566   | 58,105,857<br>58,081,332                  |
| 31.                       | Santa Paula Creek, CA  | New Work:<br>Approp.<br>Cost | 4,457,000<br>4,379,650   | 8,519,000<br>5,689,913   | 7,745,000<br>9,938,532   | 3,515,000<br>2,932,653   | 35,865,020<br>34,006,025                  |
| 32.                       | San Luis Rey River, CA                                       | New Work:<br>Approp.<br>Cost | 2,371,000<br>2,348,438   | 220,000<br>579,000       | 1,850,000<br>2,000,129   | 210,000<br>421,054       | 59,351,000<br>59,139,816                  |
| 33.                       | Sepulveda Dam, CA, (Recreation)                              | Maint:<br>Approp.<br>Cost    | 0<br>840,797             | -700,000<br>1,359,424    | 40,000<br>267,035        | 15,000<br>97,225         | 16,815,940<br>16,805,482                  |
| 34.                       | Sweetwater River Basin, CA                                   | New Work:<br>Approp.<br>Cost | 0<br>22,330              | 0<br>20                  | 0<br>0                   | 0<br>908                 | 37,082,503<br>37,082,491                  |
| 35.                       | Tropicana and Flamingo Washes, NV                            | New Work:<br>Approp.<br>Cost | 17,783,000<br>14,578,276 | 15,987,000<br>14,977,745 | 28,110,000<br>30,756,251 | 19,502,000<br>20,147,135 | 110,410,000 <sup>11/</sup><br>109,175,915 |



TABLE 33-A

## COST AND FINANCIAL STATEMENT

| See<br>Section in<br>Text | Project | Funding | FY 98 | FY 99 | FY00 | FY 01 | Total Cost<br>30 Sep 01 |
|---------------------------|---------|---------|-------|-------|------|-------|-------------------------|
|---------------------------|---------|---------|-------|-------|------|-------|-------------------------|

|     |   |                           |                    |                    |                    |                    |                        |
|-----|---|---------------------------|--------------------|--------------------|--------------------|--------------------|------------------------|
| 36. | Tucson Diversion<br>Channel, AZ<br>(Recreation) | Maint:<br>Approp.<br>Cost | 0<br>1,745,123     | 0<br>97,082        | 0<br>5,199         | 0<br>2,230         | 3,050,000<br>3,049,871 |
| 37. | Whitlow Ranch<br>Dam, Queen<br>Creek, AZ        | Maint:<br>Approp.<br>Cost | 135,000<br>120,083 | 138,000<br>154,096 | 128,000<br>129,412 | 120,639<br>121,734 | 2,272,489<br>2,272,010 |

## PRECONSTRUCTION ENGINEERING AND DESIGN

|     |   |                              |                    |                        |                        |                      |                        |
|-----|---|------------------------------|--------------------|------------------------|------------------------|----------------------|------------------------|
| 44A | Los Angeles Harbor<br>Main Channel<br>Deepening, CA | New Work:<br>Approp.<br>Cost |                    |                        |                        | 672,000<br>300,851   | 672,000<br>300,851     |
| 44B | Murrieta Creek, CA                                  | New Work:<br>Approp.<br>Cost |                    |                        |                        | 748,000<br>463,090   | 748,000<br>463,090     |
| 44C | Rio de Flag, AZ                                     | New Work:<br>Approp.<br>Cost |                    |                        |                        | 471,000<br>306,175   | 471,000<br>306,175     |
| 44D | Rio Salado, Phoenix<br>Reach, AZ                    | New Work:<br>Approp.<br>Cost | 330,000<br>221,962 | 1,725,000<br>1,474,974 | 1,320,000<br>1,631,079 | 1,996,000<br>497,021 | 5,371,000<br>3,825,036 |
| 44E | Rio Salado, Tempe<br>Reach, AZ                      | New Work:<br>Approp.<br>Cost | 49,000<br>28,221   | 225,000<br>139,954     | 308,000<br>233,481     | 0<br>67,643          | 582,000<br>469,299     |
| 44F | Tres Rios, AZ                                       | New Work:<br>Approp.<br>Cost |                    |                        | 43,000<br>42,238       | 500,000<br>471,492   | 543,000<br>513,730     |
| 44G | Tucson Drainage<br>Area, AZ                         | New Work:<br>Approp.<br>Cost | 20,000<br>30,264   | 130,000<br>21,590      | 319,000<br>415,312     | 700,000<br>648,530   | 1,199,000<br>1,115,696 |
| 44H | Upper Newport<br>Bay, CA                            | New Work:<br>Approp.<br>Cost |                    |                        |                        | 50,000<br>35,187     | 50,000<br>35,187       |
| 44I | Whitewater River<br>Basin, CA                       | New Work:<br>Approp.<br>Cost |                    |                        |                        | 135,000<br>59,304    | 135,000<br>59,304      |

## FOOTNOTES:

- 1/ Excludes non-Federal funds and costs; includes PED appropriation of \$4,090,000 and cost of \$3,833,223.
- 2/ Excludes non-Federal sponsors funds \$1,913,000 and cost of \$1,685,758; includes PED Work Allowance of \$647,000 and cost of \$647,000.
- 3/ Excludes non-Federal funds and costs; includes PED appropriation of \$750,000 and costs of \$739,000.
- 4/ Excludes non-Federal funds \$376,000 and cost of \$367,712; includes PED appropriation \$1,600,000 and cost of \$1,600,000.
- 5/ Includes PED Work Allowance of \$9,650,000 and cost of \$9,648,146. Excludes non-Federal Work Allowance of \$6,191,000 and cost of \$4,299,586.
- 6/ Excludes non-Federal funds and costs. Excludes PED appropriation and cost due to portions of the project reclassified to "Deferred" and "Inactive" categories.

## COST AND FINANCIAL STATEMENT

| See<br>Section<br>In Text | Project   | Funding | FY 98 | FY 99 | FY00 | FY 01 | Total Cost<br>30 Sep 01 |
|---------------------------|---|---------|-------|-------|------|-------|-------------------------|
| <u>7/</u>                 | Excludes non-Federal funds and costs; includes PED appropriation \$3,825,000 and cost of \$3,825,000      |         |       |       |      |       |                         |
| <u>8/</u>                 | Excludes non-Federal funds and costs; includes PED appropriation \$25,643,000 and costs of \$25,643,000.  |         |       |       |      |       |                         |
| <u>9/</u>                 | Excludes non-Federal funds and costs; includes PED appropriation \$225,000 and costs of \$224,756.        |         |       |       |      |       |                         |
| <u>10/</u>                | Excludes non-Federal funds and costs; includes PED appropriation \$180,000 and costs of \$78,176.         |         |       |       |      |       |                         |
| <u>11/</u>                | Excludes non-Federal funds and costs; includes PED appropriation of \$ 7,174,000 and costs of \$7,174,000 |         |       |       |      |       |                         |

**LOS ANGELES, CA, DISTRICT**

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>   |
|------------------------------------|--|---|--|
| 1.                                 | Sep 3, 1954                            | <b>CHANNEL ISLANDS HARBOR, CA</b><br>Harbor for light-draft vessels and shore protection works.   | H.Doc.362, 83d Cong., 2d sess.   |
| 2.                                 | Jul 3, 1958                            | <b>IMPERIAL BEACH, CA</b><br>Beach erosion control.   | River and Harbor Act, Sec 101;<br>PL 85-500 IAW H.Doc.399, 84 <sup>th</sup><br>Cong., 2d sess. |
| 3.                                 | June 3, 1988                           | <b>LOS ANGELES AND LONG BEACH HARBORS, CA</b><br>A breakwater 8,500 feet long, east of Point Fermin.  | S.Doc.18, 55th Cong., 1st sess.  |
|                                    | June 25, 1896                          | Extend said breakwater to shore, making a total length of 11,152 feet from Point Fermin.  | H.Doc. 969, 60th Cong., 1st sess.  |
|                                    | July 25, 1912                          | Dredge Los Angeles outer harbor west of entrance channel.   | Rivers and Harbors Committee<br>Doc.8, 62d Cong., 2d sess.                                     |
|                                    | Aug. 8, 1917                           | For silt-diversion works.   | Rivers and Harbors Committee<br>Doc.9, 64th Cong., 2d sess.                                    |
|                                    | Sep. 22, 1922                          | Triangular area approach to Los Angeles inner harbor entrance channel.  | H.Doc. 1013, 66th Cong., 3d sess.  |
|                                    | Mar 3, 1925                            | Dredge Los Angeles Harbor main channel and entrance 35 feet deep and 1,000 feet wide; dredge inner harbor turning basin 35 feet deep; and reclamation of Reservation Point.   | H. Doc.349, 68th Cong., 1st sess.  |
|                                    | July 3, 1930                           | A detached breakwater 12,500 feet long in prolongation of existing breakwater (authorized by act of 1896).  | Rivers and Harbors Committee<br>Doc.33, 71st Cong., 2d sess.                                   |
|                                    |  | Widen fairway on east side of entrance to Los Angeles inner harbor; dredge a channel 35 feet deep and 400 feet wide in Cerritos channel from U.S. station 406 to Long Beach turning basin; entrance channel to Long Beach Harbor 35 feet deep and 500 feet wide; and maintenance of the Long Beach breakwater south of outer end pier A. This act provides that in no case shall dredging be done within 50 feet of established pierhead lines of existing piers and wharves. | S.Doc.130, 71st Con., 2d sess.   |
|                                    | Aug 30, 1935                           | Dredge 1,000-foot wide entrance channel to Los Angeles outer harbor to 40-foot depth and a turning basin 3,500 feet long and 1,500 feet wide to same depth; and enlarge entrance to inner harbor by dredging to 35-foot depth a triangular area at its junction with turning basin.   | S.Committee print, 74th Cong.,<br>1st sess.  |
|                                    | Oct 17, 1940                           | Dredge to a depth of 40 feet area A and B adjacent to 40-foot-depth entrance channel; construct and maintain a rubble mound breakwater of composite type 21,000 feet long in eastward therefrom to Belmont pier; maintenance dredging of A and B, and at mouth of Los Angeles River diversion channel; all subject to such modifications as in discretion of the Chief of Engineers may be advisable to meet requirements of the Navy.  | H.Doc.843, 76th Cong., 3d sess   |

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>                 |
|------------------------------------|--|---|----------------------------------|
|                                    | Sep 3, 1954                            | Dredge to a depth of 35 feet in West Basin as a modification of existing project. This act provides that the Secretary of the Army is authorized to reimburse local interests for work they have done upon this project prior to July 1, 1953, at actual cost to local interests so far as same shall be approved by Chief of Engineers and found to have been done in accordance with the project hereby adopted and that such reimbursement shall be subject to appropriations applicable thereto or funds available therefore and shall not take precedence over other pending projects of higher priority for harbor improvements; and that such payments shall not exceed \$500,000. | H. Doc. 161, 83d Cong., 1st Sess |
|                                    | July 14, 1960                          | Dredge to a depth of 35 feet in West Basin as a modification of existing project.   | H.Doc.401,86th Cong., 2d sess.   |
|                                    | Oct 22, 1976                           | Dredge Los Angeles Harbor entrance channel 45 feet deep, 1,000 feet wide, and about 5,500 feet long; Los Angeles channel 45 feet deep, 750 feet wide, and about 12,500 feet long; inner harbor turning basin 45 feet deep, 1,350 feet wide, and about 1,650 feet long; East Basin channel 45 feet deep, 400 feet wide, and about 6,000 feet long; West Basin 45 feet deep, from 350 to 1,350 feet wide, and about 3,800 feet long; and East Basin 45 feet deep, from 400 to 950 feet wide, and about 2,000 feet long. This act provides that no dredging shall be done within 125 feet of established pier head lines, wharves, or other structures.                                      | H.Doc.401,86th Cong., 2d sess.   |
|                                    | Oct 17, 1986                           | Deepen the entry channel to the Los Angeles Harbor and Long Beach Harbor to 70 feet and 76 feet respectively, including the creation of 800 acres of land from the project.   | WRDA 86, Sec 201.                |
|                                    | Nov 17, 1988                           | If non-Federal interest carry out any work associated with such project which is later recommended by the Chief of Engineers and approved by the Secretary, the Secretary may credit such non-Federal interest an amount equal to the Federal share of the cost of such work, without interest.   | WRDA 88, Sec 4                   |
|                                    | Nov 28, 1990                           | Section 4(d) of WRDA 1988 (102 Stat. 4015) is amended by inserting after "approved by the Secretary" in the first sentence the following: "or which is carried out after approval of the final report by the Secretary and which is determined by the Secretary to be compatible with the project".   | WRDA 90, Sec 102                 |
|                                    | Sep 25, 1996                           | The sewer outfall relocated by the Port of Los Angeles at a cost of approximately \$12,000,000 shall be considered to be a relocation. The cost of such relocation shall be credited as a payment provided by the non-Federal interest.   | WRDA 96 Sec 307                  |

LOS ANGELES, CA, DISTRICT

TABLE 33-B

AUTHORIZING LEGISLATION

| See<br>Section<br>in Text | Date of<br>Authorizing<br>Act | Project and Work Authorized  | Documents  |
|---------------------------|-------------------------------|--|--|
|                           | Oct 31, 2000                  | The project for navigation, Los Angeles Harbor, California, at a total cost of \$153,313,000, with an estimated Federal cost of \$43,735,000 and an estimated non-Federal cost of \$109,578,000.   | WRDA 2000, Sec 101(b)(5)   |
| 4.                        | Sep 3, 1954                   | <b>MARINA DEL REY, LOS ANGELES COUNTY, CA</b><br>Harbor for light-draft vessels.   | H.Doc.389, 83d Cong., 2d sess.   |
|                           | Sep 28, 1994                  | Determine advisable modifications in interest of navigation, hurricane and storm damage reduction, environmental restoration and disposal of contaminated sediments from the entrance channel at Marina Del Rey Harbor   | Sec 216, Flood Control Act of 1970, supp. by House Resolution Sep. 28, 1994.     |
| 5.                        | Mar 2, 1945                   | <b>MORRO BAY HARBOR, CA</b><br>Adoption and improvement of existing entrance channel to bay, a breakwater extending south by west from Morro Rock, and bay channels and basins at locations and of dimensions substantially as shown on the Navy Department map on file in the Office of the Chief of Engineers. | H.Doc.283, 77th Cong., 1st sess.   |
| 6.                        | May 22, 1991                  | <b>NEWPORT BAY HARBOR (&amp; REVIEW), CA</b><br>Maintenance and improvement of main and inner channels.  | Doc.PL99-662 (WRDA 1986, Sec841). R&H Acts 1937 & 1945<br>S. Doc. 138 78th Cong. |
|                           |                               | Initiate feasibility phase studies re-environmental preservation benefits associated with modification of existing Federal project to extend channels into the Upper Newport Bay.  | WRDA 1986, Sec. 841 (PL-9962)  |
| 7.                        | Oct 27, 1965                  | <b>OCEANSIDE HARBOR, CA</b><br>Maintenance of general navigation features of Del Mar Boat Basin and of Oceanside Harbor.   | H.Doc.76, 89th Cong., 1st sess.  |
|                           | Oct 27, 1990                  | Navigation and storm damage reduction, repair, operate, and maintain the extension of south jetty.   | PL 101-640 (WRDA 1990) WRDA 1992. PL 102-580                                     |
| 8.                        | May 22, 1991                  | <b>OCEANSIDE HARBOR SAND BY-PASS SYSTEM, CA</b><br>Maintenance of general navigation features of Del Mar boat Basin and of Oceanside Harbor.   | EWDA Act 1992  |
| 9.                        | Aug 13, 1968                  | <b>PORT HUENEME, CA</b><br>Adoption and maintenance of existing harbor for deep-draft vessels; dredged central basin to 35 feet deep, and extend southern-most interior channel.   | H.Doc.362, 90th Cong., 2d sess.  |
| 10.                       | Sep 25, 1996                  | <b>PORT OF LONG BEACH, CA</b><br>Navigation project.<br>The project for navigation, Port of Long Beach (Deepening), CA; Report of the chief of Engineers, dated July 26, 1996, at a total cost of \$37,288,000 with an estimated Federal cost of \$14,318,000 and an estimated non-Federal cost of \$22,970,000. | WRDA 1996, Sec 101(d) (4)  |

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>   | <b>Documents</b>   |
|------------------------------------|--|--|--|
| 11.                                | Mar 21, 1950                           | <b>REDONDO BEACH HARBOR (KING HARBOR), CA</b><br>Maintain harbor dredging and breakwaters.   | R&H Act 1950 (H.Doc 303 81st Cong.) PL99-662 (WRDA 86, Sec 809), Amended in WRDA 1988. |
|                                    | Oct 17, 1986<br>Oct 1988               | Construct and maintain breakwater to height of 22 feet.  | Authorized by Chief of Engineers.  |
| 12.                                | Mar 3, 1875                            | <b>SAN DIEGO HARBOR, CA</b><br>Diversion dike.   | Annual Report. 1873; p.1-142   |
|                                    | Sep 19, 1890                           | Jetty on Zuniga Shoal.   | H.Ex.Doc.177, 50th Cong., 1st sess. (Annual Report, 1888; p.2114).                     |
|                                    | Jun 25, 1910                           | Dredge channel through outer bar 30 feet deep and 600 feet wide, and a channel through middle ground to 30 feet deep.  | H.Doc.961, 60th Cong., 1st session.  |
|                                    | Mar 4, 1913                            | Dredge channel through outer bar 570 feet wide and 35 feet deep, and a channel through middle ground 32 feet deep.   | H.Doc.1309, 62d Cong., 3d sess.  |
|                                    | Jul 27, 1916                           | Widen approach (area B) to San Diego municipal pier by dredging area C (north of area B).  | H.Doc.648, 64th Cong., 1st sess.   |
|                                    | Aug 8, 1917                            | Dredging area A (south of area B).   | Rivers and Harbors Committee Doc.8, 64th Cong., 2d sess.                               |
|                                    | Aug 8, 1917                            | Dredge 35-foot channel through middle ground.  | H.Doc.140, 65th Cong., 1st sess.   |
|                                    | Sep 22, 1922                           | Dredging areas D and E.  | H.Doc.1000, 66th Cong., 3d sess.   |
|                                    | Mar 3, 1925                            | Widen approach (area C) to San Diego municipal pier 1 by dredging an portion of area F (north of area C).  | River and Harbors Committee Doc.2, 68th Cong., 1st sess.                               |
|                                    | Jul 3, 1930                            | Deepen to 40 feet channel through outer bar; along south and north banks, main channel; dredge turning basin, widen area H, and dredge a channel to National City and Chula Vista. | S.Doc.81, 71st Cong., 2d sess.   |
|                                    | Aug 30, 1935                           | Widen bay channel to 2,200 feet with depth of 35 feet from the vicinity of Whalers Bight in lower bay to Naval Air Station opposite turning basin.                                 | H.Doc.223, 73d Cong., 2d sess.   |
|                                    | Aug 26, 1937                           | Dredging areas Q.Q-1, M, N, and O.   | Rivers and Harbors Committee Doc.89, 74th Cong., 2d sess.                              |
|                                    | Oct 17, 1940                           | Dredge a seaplane basin (area S.) of about 3,000 acres, 10 feet deep, and fill an area of about 110 acres adjacent to southern end of basin.                                       | H.Doc.844, 76th Cong., 3d sess.  |
|                                    | Mar 2, 1945                            | Dredge triangular approaches to 26-and 35-foot anchorages, area M.   | H.Doc.390, 77th Cong., 1st sess.   |
|                                    | Aug 13, 1968                           | Deepen and extend existing navigation channels, delete uncompleted parts, and extend maintenance.  | H.Doc.365, 90th Cong., 2d sess.  |

**LOS ANGELES, CA, DISTRICT**

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>  |
|------------------------------------|--|---|---|
| 13.                                | Jul 24, 1946                           | <b>SAN DIEGO RIVER AND MISSION BAY, CA</b><br>Modification of existing flood control project for San Diego River, CA, to include a multiple-purpose project for flood control on San Diego River and small-boat navigation on Mission Bay.  | H.Doc.760, 79th Cong., 2d sess.                             |
| 14.                                | Aug 30, 1935                           | <b>SANTA BARBARA HARBOR, CA</b><br>Maintenance dredging present depths into harbor formed by breakwater constructed by local interests.   | S.Committee Print, 73d Cong., 2d sess.                      |
|                                    | Mar 2, 1945                            | Permits maintenance by means of a fixed sand-intercepting plant to be provided and operated by and at expense of local interests. United States to contribute to operating expense an amount not to exceed \$30,000 annually, whenever funds are allotted therefore; funds thus contributed to be reduced by actual cost of harbor maintenance if and when intercepting plant has been installed. | H.Doc.348, 77th Cong., 1st sess.                            |
|                                    |  | Project for navigation; report of the Chief of Engineers, dated April 26, 1994  |   |
|                                    | Oct 23, 1962                           | Modification of existing project.   | H.Doc.518, 87th Cong., 2d sess.                             |
|                                    | Dec 31, 1970                           | Dredging and maintenance by United States.  | None.   |
|                                    | Sep 25, 1996                           | Complete plans and specifications.  | Sec 101, H Doc 1160, Water Resources Project Authorization. |
| 15.                                | Sep 25, 1996                           | <b>SANTA MONICA BREAKWATER, CA</b><br>Hurricane and storm damage reduction act.   | WRDA 1996, Sec 101(d) 7.                                    |
|                                    |  | The project for hurricane and storm damage reduction, Santa Monica Breakwater, Santa Monica, CA; Report of the chief of Engineers, dated June 7, 1996, at a total cost of \$6,440,000, with an estimated Federal cost of \$4,220,000 and an estimated non-Federal cost of \$2,220,000.  |   |
| 16.                                | Oct 23, 1962                           | <b>SURFSIDE, SUNSET &amp; NEWPORT BEACH, CA</b><br>Beach erosion.   | Sec 101 of R&H Act 1992.                                    |
|                                    |  | Protective measures that comprise a protective and feeder beach at Surfside, and on offshore breakwater at Newport Beach to provide and impounding area from which sand would be dredged and returned periodically to the feeder beach, all substantially in accordance with the plan of the DE.  |   |
| 17.                                | Aug 13, 1968                           | <b>VENTURA HARBOR (VENTURA MARINA), CA</b><br>Adoption and maintenance of existing general navigation features of harbor, excluding interior basins; construction of an offshore breakwater; dredging a sand trap in lieu of breakwater; repairing existing north and middle jetties; and construction of recreational fishing facilities on jetty crests.  | H.Doc.356, 90th Cong., 2d sess.                             |
|                                    | Nov 17, 1988                           | The Harbor commonly known as Ventura Marina, located in Ventura County, CA, and adopted and authorized by section 101 of Public Law 90-483, shall hereafter be known and designated as "Ventura Harbor".  | Public Law 100-676.   |

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>   | <b>Documents</b>  |
|------------------------------------|--|--|---|
| 18.                                | Dec 22, 1944                           | <b>ALAMO LAKE, BILL WILLIAMS RIVER, AZ</b><br>Multiple-purpose dam and reservoir.  | H.Doc.625, 78th Cong., 2d sess.                           |
| 19.                                | Jan 3, 1996                            | <b>CLIFTON, AZ</b><br>Reauthorized the flood control project at a total cost of \$21,100,000.  | WRDA 1996 Sec 301.  |
|                                    | Sep 25, 1990                           | Flood control.   | WRDA 1990, Sec 101(3a)<br>modified WRDA 1986.             |
| 20.                                | Oct 2, 1992                            | <b>HANSEN DAM, CA</b><br>Develop water conservation on existing spreading grounds.   | PL 102-377 Energy & Water<br>Appropriations Act, FY 1993. |
| 21.                                | Jun 22, 1936                           | <b>LOS ANGELES COUNTY DRAINAGE AREA, CA</b><br>Reservoirs and flood channels for flood control and related purposes at an estimated construction cost not to exceed \$70 million.  | None  |
|                                    | May 15, 1992                           |  | None  |
|                                    | Jun 28, 1936                           | Added flood channels on Ballona Creek and tributaries to project.  | H. Doc. 838, 76th Cong., 3d<br>Sess.                      |
|                                    |  | Provision of lands, easements, and rights-of-way and relocations by Federal Government instead of by local interests. (Resultant Additional cost to the United States, \$12,541,000).  |   |
|                                    | Aug 18, 1937                           |  | None  |
|                                    |  | Project extended to include additional flood control reservoirs, flood control channels, and debris basins for flood control and related purposes. Also authorized to be appropriated \$25 million for further accomplishment of plan.   |   |
|                                    | Dec 22, 1944                           | Authorized to be appropriated an additional \$25 million for prosecution of comprehensive plan approved in Flood Control Act of Aug. 18, 1941.   | None  |
|                                    | Jul 24, 1946                           | Authorized to be appropriated an additional \$25 million for further prosecution of comprehensive plan.  | None  |
|                                    | May 17, 1950                           | Rio Hondo channel improvement, Whittier Narrows Reservoir to Los Angeles River (in lieu of enlarging channel and bridges on San Gabriel River Downstream from reservoir). Also authorized to be appropriated an additional \$40 million for further prosecution of comprehensive plan. | None  |
|                                    | Sep 3, 1954                            | Authorized to be appropriated an additional \$12,500,000 for further prosecution of comprehensive plan.  | None  |
|                                    | Jul 3, 1958                            | Authorized to be appropriated an additional \$44 million for further prosecution of comprehensive plan.  | None  |
|                                    | Jul 14, 1960                           | Authorized to be appropriated an additional \$32 million for further prosecution of comprehensive plan.  | None  |
|                                    | Oct 23, 1962                           | Authorized to be appropriated an additional \$3,700,000<br>For further prosecution of comprehensive plan.  | None  |
|                                    | Dec 30, 1963                           | Authorized to be appropriated an additional \$30 million for further prosecution of comprehensive plan.  | None  |



**LOS ANGELES, CA, DISTRICT**

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>   | <b>Documents</b>  |
|------------------------------------|--|--|---|
|                                    | Nov 17, 1986                           | Authorized modifications of Hansen Dam by removing and selling dredged material to facilitate flood control, recreation, and water conservation.   | None  |
|                                    | Nov 17, 1988                           | The Secretary may convey to the city of South El Monte, CA, approximately 7.778 acres of real property, together with improvements thereon, located within the Whittier Narrows Flood Control Basin.   | None  |
|                                    | Oct 30, 1990                           | The project for flood control, Los Angeles County Drainage Area, California, at a total cost of \$327,000,000, with an estimated first Federal cost of \$163,500,000, with an estimated first Federal cost of \$163,500,000, is authorized to be prosecuted by the Secretary in accordance with a final report of the Chief of Engineers and with such modifications as are recommended by the Secretary. No construction on the project may be initiated until such a report of the Chief of Engineers is issued and approved by the Secretary. | WRDA 1990, Sec 101(b)(PL 101-640), Project Subject to Favorable Report of the chief of Engineers. |
|                                    | Nov 28, 1990                           | Authorized project for flood control. Authorized by Chief of Engineers Report.   | PL 101-640, WRDA 1990   |
| 22.                                | Jul 14, 1960                           | <b>LOS ANGELES RIVER (SEPULVEDA DAM TO ARROYO SECO), CA</b><br>Recreation development for bicycle/hiking trails along the upper Los Angeles River  | Flood Control Act 1936, PL 77387 1941, PL 103-126   |
| 23.                                | May 17, 1950                           | <b>MOJAVE RIVER DAM, MOJAVE RIVER BASIN, CA</b><br>Dam and reservoir, and an earthfill dike.   | H.Doc.164, 86th Cong., 1st sess.  |
|                                    |  | Evaluate opportunities for water conservation, environmental restoration, and enhanced flood control, along the Mojave River and Tributaries downstream of the dam.  | HR 2479, Mar. 7, 1996   |
| 24.                                | Oct 31, 2000                           | <b>MURRIETA CREEK, CA</b><br>Flood damage reduction and ecosystem restoration, described as alternative 6, based on the District Engineer's Murrieta Creek feasibility report and environmental impact statement dated October 2000, at a cost of \$89,846,000 with an estimated Federal cost of \$25,556,000 and an estimated non-Federal cost of \$64,290,000.   | WRDA 2000, Sec 101 (b) (6)  |
| 25.                                | Jun 20, 1989                           | <b>NOGALES WASH, AZ</b><br>Flood Control Protection and Flood Warning System.  | Energy and Water Development Appropriation bill 1990, H.Doc2696, 101st Cong, 1st session          |
|                                    | Oct 27, 1990                           | Flood warning gauges in Mexico   | WRDA 1990, Sec 101 (a)(4)   |
|                                    | Oct 12, 1996                           | Modifies Section 101(a)(4) of WRDA 1990 to direct the Secretary to permit the non-Federal contribution for the project to be determined in accordance with section 103 of WRDA 1986 and direct the Secretary to enter into negotiations with non-Federal interests pursuant to 103(l) of such Act concerning the timing of the initial payment of the non-Federal contributions.   | WRDA 1996, Sec 303; Public Law 104-303  |
|                                    |  | Conduct a study of the relationship of flooding in Nogales and floodflows emanating in Mexico. Transmit a report which includes a recommendation of the appropriate level of non-Federal participation in the authorized flood control project.  | WRDA 1996, Sec 404; Public Law 104-303  |
|                                    | Oct 31, 2000                           | Modified to provide that the Federal share of the cost associated with addressing flood control problems in Nogales, Arizona, arising  | WRDA 2000, Sec 302  |

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>  |
|------------------------------------|--|---|---|
|                                    |  | from floodwater flows originating in Mexico shall be 100 percent.   |   |
| 26.                                | Sep 25, 1996                           | <b>NORCO BLUFFS, CA</b><br>The project for bluff stabilization, Norco Bluffs, Riverside county, California, at a total cost of \$8,600,000, with an estimated Federal cost of \$6,450,000 and an estimated non-Federal cost of \$2,150,000.   | WRDA 96, Sec 101(b)   |
| 27.                                | July 6, 1949                           | <b>PAINTED ROCK DAM (GILA RIVER), GILA RIVER BASIN, AZ</b><br>Dam and flood control basin.  | H.Doc.331, 81st Cong., 1st sess.  |
| 28.                                | Oct 27, 1965                           | <b>PHOENIX, AZ, AND VICINITY (INCLUDING NEW RIVER), GILA RIVER BASIN</b><br>Detention basins, diversion channels, and channel improvements.<br><br>Cover Arizona canal Diversion channel, east of Central Avenue of Phoenix, property line of Arizona Biltmore on Phoenix, and east of 32d Street to the Cudia City Wash spillway in Paradise Valley. | H.Doc.216, 89th Cong., 1st sess<br><br>National Defense Authorization Act of Fiscal Year 1992 and 1993. |
| 29.                                | May 17, 1950                           | <b>PINE AND MATHEWS CANYONS DAMS, COLORADO RIVER BASIN, NV</b><br>Dams and flood control basins.  | H.Doc.530, 81st Cong., 2d sess.   |
| 30.                                | Oct 17, 1986                           | <b>RILLITO RIVER, AZ</b><br>Flood damage protection.  | WRDA 1986, PL 99-662, Section 601(a)  |
|                                    | June 20, 1989                          | Bank erosions control and flood protection.   | Energy and Water Development Appropriations Act 1990  |
|                                    | Sep 26, 1997                           | Section 114 of Public Law 101-101, Energy and Water Development Appropriations Act, 1990, is amended by striking "A total cost of \$19,000,000" and inserting in lieu thereof, "A total cost of \$40,000,000."  | Energy and Water Development Appropriations Act, 1998   |
| 31.                                | Oct 31, 2000                           | <b>RIO DE FLAG, FLAGSTAFF, AZ</b><br>The project for flood damage reduction, Rio de Flag, Flagstaff, AZ, at a total cost of \$24,072,000, with an estimated Federal cost of \$15,576,000 and an estimated non-Federal cost of \$8,496,000.  | WRDA 2000, Sec 101 (b) (3)  |
| 32.                                | Aug 17, 1999                           | <b>RIO SALADO (SALT RIVER), PHOENIX AND TEMPE, AZ</b><br>Report of the Chief of Engineers dated Aug 20, 1998, at a total cost of \$88,048,000 with an estimated Federal cost of \$56,355,000 and estimated non-Federal cost of \$31,693,000.  | Energy and Water Development Appropriations WRDA 1999, PL106-53 Section 101(a) (4)                      |
| 33.                                | May 20, 1991                           | <b>SANTA ANA RIVER MAINSTEM, CA</b><br>Flood control along 75 miles reach of Santa Ana River, recreation development, and mitigation and preservation.  | WRDA 1986, PL99-662, Energy and Water Development Appropriations Act 1988, and WRDA 1988.               |
|                                    | Nov 28, 1990                           | The project for flood control, Santa Ana Mainstem, including Santiago Creek, CA, is modified to authorize the Secretary to develop recreational trails and facilities on lands between Seven Oaks Dam and Prado Dam, including flood plain management areas.  | H.Doc 94-594, 94th Cong., 2d sess.  |
| 34.                                |  | <b>SANTA ANA RIVER BASIN (AND ORANGE</b>  |   |

LOS ANGELES, CA, DISTRICT

TABLE 33-B

AUTHORIZING LEGISLATION

| See<br>Section<br>in Text | Date of<br>Authorizing<br>Act | Project and Work Authorized   | Documents  |
|---------------------------|-------------------------------|---|--|
|                           | Jun 22, 1936                  | <b>COUNTY), CA</b><br>Reservoirs and flood channels for flood control and related purposes for protection of metropolitan area of Orange County, at an estimated construction cost not to exceed \$13 million.  | H. Doc. 688, 75th cong., 3d sess.  |
|                           | Jun 28, 1938                  | San Antonio and Chino Creeks channel portion of improvement. Authorized to be appropriated \$6,500,000 for initiation and partial accomplishment of plans for those creeks. 1936, providing that local interests pay for relocations, lands, easements, and rights-of-way. (Estimated resultant additional cost to United States. \$3,500,000).   | H.Doc.688, 75th Cong., 3d sess   |
|                           | Aug 18, 1941                  | Authorized to be appropriated an additional \$2,500,000 for prosecution of projects approved in above flood control acts.   | None.  |
|                           | Dec 22, 1944                  | Authorized to be appropriated an additional \$10 million for prosecution of projects adopted in above-mentioned flood control acts, including projects on Lytle and Cajon Creeks for local flood protection at San Bernardino and Colton, CA.   | H. Doc. 534, 78th Cong., 2d sess.1   |
|                           | Jul 3, 1958                   | Authorized to be appropriated an additional \$8 million for prosecution of projects approved in abovementioned flood control acts.  | None.  |
| 35.                       | Oct 31,2000                   | <b>SANTA BARBARA STREAMS, LOWER MISSION CREEK, CA</b><br>The project for flood damage reduction, Santa Barbara streams, Lower Mission Creek, CA, at a total cost of \$18,300,000, with an estimated Federal cost of \$9,200,000 and an estimated non-Federal cost of \$9,100,000.   | WRDA 2000, Sec 101 (b) (8)   |
| 36.                       | Oct 22, 1976                  | <b>SANTA PAULA CREEK, CA</b><br>Flood control improvements and prevention.  | 1948 Flood Control Act, H.Doc.443,80th Cong., 1st sess                               |
| 37.                       | Dec 17, 1970                  | Authorize for flood control.  | S.Doc.91-106, 91st Cong., 2d sess  |
|                           | Sep 25, 1996                  | <b>SAN LUIS REY RIVER, SAN LUIS REY RIVER BASIN, CA</b><br>Channel and levee, and beautification features.<br><br>The project for flood control of the San Luis Rey river, CA, authorized pursuant to section 201 of Flood Control Act of 1965 (42 U.S.C. 1962d-5; 79 stat 1073-1074) is modified to authorize the secretary to construct the project substantially in accordance with the report of the corps of Engineers dated may 23, 1996 at a total cost of \$81,600,000 (Fed \$61,100,000, non-Fed \$20,500,000) | Title III Project Related Provisions Sec 301 Project Modifications                   |
| 38.                       | Oct 22, 1976                  | <b>SEPULVEDA DAM, CA RECREATION FACILITIES</b>  | FC Act 1936, (Amended 1937, 1941, 1950) and Fed Water Project Recreation Act of 1965 |
| 39.                       | Jun 11, 1964                  | <b>SWEETWATER RIVER BASIN, CA</b><br>Channel improvement, as part of a combined flood control and highway project.  | FC Act 1965,H.Doc. 240 and 309, 88th Cong., 2d sess                                  |
| 40.                       | Oct 31, 2000                  | <b>TRES RIOS, AZ</b><br>The project for ecosystem restoration, Tres Rios, AZ, at a total cost of \$99,320,000, with an estimated Federal cost of \$62,755,000 and an estimated non-Federal cost of \$36,565,000.  | WRDA 2000, Sec 101 (b) (4)   |

**TABLE 33-B**

**AUTHORIZING LEGISLATION**

| <b>See<br/>Section<br/>in Text</b> | <b>Date of<br/>Authorizing<br/>Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>  |
|------------------------------------|--|---|---|
| 41.                                | Oct 31, 1992                           | <b>TROPICANA AND FLAMINGO WASHES, NV</b><br>Flood reduction, erosion control, and wildlife enhancement.   | WRDA 1992, Sec 101 (13)   |
|                                    | Sep 25, 1996                           | Authorizes project to demonstrate the potential advantages and effectiveness of non-Federal implementation of flood control projects, and provides that the Secretary shall enter into an agreement, pursuant to Section 211 of WRDA 96, with the non-Federal interests for development of that project. Proposed agreement would allow the non-Federal sponsor to construct any discrete segment of the authorized project as approved by the Army corps of Engineers. | WRDA 1996, Sec 211 (f)(5),<br>Public Law 104-303  |
|                                    | Aug 17, 1999                           | An Federal costs associated with the project, incurred by the non-Federal interest to accelerate for modify construction of the project, in cooperation with the Corps of Engineers, shall be eligible to reimbursement by the Secretary.   | WRDA 1999, Sec 370;<br>Public Law 106-53  |
| 42.                                | Oct 22, 1976                           | <b>TUCSON DIVERSION CHANNEL (RECREATIONAL DEVELOPMENT), AZ</b><br>The project for recreational development along the Tucson Diversion channel.  | FC Act 1936 (Amended 1937)<br>1941, 1950 and Fed Water<br>Project Recreation Act of 1965. |
| 43.                                | Aug 17, 1999                           | <b>TUCSON DRAINAGE AREA, AZ</b><br>Report of the Chief of Engineers Report dated May 20, 1998, at a total cost of \$29,900,000, with an estimated Federal cost of \$16,768,000 and an estimated non-Federal cost of \$13,132,000.   | WRDA 1999, PL106-53 Sec<br>101(a) (5)   |
| 44.                                | Oct 31, 2000                           | <b>UPPER NEWPORT BAY, CA</b><br>The project for ecosystem restoration, Upper Newport Bay, CA at a total cost of \$32,475,000, with an estimated Federal cost of \$21,109,000 and an estimated non-Federal cost of \$11,366,000.   | WRDA 2000, Sec 101 (b) (9)  |
| 45.                                | Jul 24, 1946                           | <b>WHITLOW RANCH DAM, QUEEN CREEK, GILA RIVER BASIN, AZ</b><br>Dam and flood control basins.  | H.Doc.220, 80th Cong., 1st sess.  |
| 46.                                | Oct 31, 2000                           | <b>WHITEWATER RIVER BASIN, CA</b><br>The project for flood damage reduction, Whitewater River Basin, CA, at a total cost of \$28,900,000, with an estimated Federal cost of \$18,800,000 and an estimated non-Federal cost of \$10,100,000.   | WRDA 2000 Sec 101 (b) (10)  |

1. Contains latest published map.

2. Date approved by Chief of Engineers under provisions of section 205. Public Law 80-858, as amended.

3. Final date of approval by House of Senate Public Works Committees resolution under provisions of Section 201, Public Law 89-298.

**LOS ANGELES, CA, DISTRICT**

**TABLE 33-C OTHER AUTHORIZED NAVIGATION PROJECTS**

| Project  | Status                        | For Last<br>Full Report<br>See Annual<br>Report For | Cost to 30 Sep 2001       |                              |
|--|-------------------------------|---|---------------------------|------------------------------|
|  |                               |   | Construction              | Operation and<br>Maintenance |
| Dana Point, Harbor, CA   | Completed                     | 1984  | \$ 4,737,550 <sup>1</sup> | 555,147 <sup>1</sup>         |
| Harbor office at Morro Bay, CA <sup>3</sup>                            |                               |   |                           |                              |
| Los Angeles and Long Beach<br>Harbors, San Pedro Bay, CA <sup>3</sup>  | Active                        |   | 53,627,729                | 13,147,957                   |
| Newport Bay Harbor, CA <sup>3</sup>                                    | Inactive and<br>Active (mod)  | 1982  | 796,897                   | 2,696,245 <sup>5</sup>       |
| Port San Luis, CA  | Completed and<br>Active (mod) | 1984  | 1,426,050 <sup>6</sup>    | 1,042,352 <sup>7</sup>       |
| Redondo Beach Harbor<br>(King Harbor), CA <sup>8</sup><br>Active (mod) | Completed and                 | 1984  | 4,766,898 <sup>9</sup>    | 5,237,313 <sup>10</sup>      |
| Sunset Harbor (Bolsa Chica Bay), CA <sup>3</sup>                       |                               |   |                           |                              |

1. Excludes \$4,777,000 required contributed funds and Coast Guard costs.
2. Includes \$45,147 for reconnaissance and condition surveys.
3. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986, subject to favorable report.
4. Public Works Administration funds. Excludes \$796,897 required contributed funds and \$1,100 preauthorization costs.
5. Includes \$137,622 for reconnaissance and condition survey costs since Fiscal Year 1958. Excludes \$7,000 other contributed funds.
6. Includes \$568,417 for new work prior to modification by 1965 River and Harbor Act. Excludes Coast Guard costs. Includes \$104,031 expended in Fiscal Year 1987.
7. Includes \$54,715 for maintenance for project prior to modification by 1965, River and Harbor Act, and \$18,958 for reconnaissance and condition surveys. Includes \$90,130 expended in Fiscal Year 1987.
8. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986.
9. Excludes Coast Guard costs.
10. Includes \$20,517 for reconnaissance and condition survey costs since Fiscal Year 1958. Includes \$293,167 expended in Fiscal Year 1987.

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 33-D OTHER AUTHORIZED SHORE PROTECTION PROJECTS**

| Project   | Status                               | For Last Full Report See Annual Report For | Cost to 30 Sep 2001     |                           |
|---|--------------------------------------|--|-------------------------|---------------------------|
|   |                                      |  | Construction            | Operation and Maintenance |
| Anaheim Bay Harbor Orange County, CA <sup>1</sup>                                       | Completed                            | 1967                                       | \$ 89,119               |                           |
| Bird Rock Area, La Jolla San Diego County, CA <sup>2</sup>                              | Completed                            | 1967                                       | 25,881 <sup>3</sup>     |                           |
| Coast of California, Point Mugu, to San Pedro Breakwater, CA                            | Completed                            | 1972                                       | 1,253,594 <sup>4</sup>  |                           |
| Doheny Beach State Park (Doheny State Beach), CA  | Completed                            | 1968                                       | 578,717 <sup>5</sup>    |                           |
| Imperial Beach, CA  | Active                               | 1986                                       | 2,875,472 <sup>6</sup>  |                           |
| Las Tunas Beach, San Diego County, CA   | Active                               | 1976                                       | 107,484                 |                           |
| Ocean Beach, San Diego County, CA <sup>7</sup>  | Completed                            | 1960                                       | 7,912                   |                           |
| Oceanside, San Diego County, CA   | Completed                            | 1982                                       | 4,367,442 <sup>8</sup>  |                           |
| San Diego (Sunset Cliffs), CA   | Active                               | 1979                                       | 365,000 <sup>9</sup>    |                           |
| San Gabriel River to Newport Bay (Surfside-Sunset and Newport Beach), Orange County, CA | Active                               | 1985                                       | 9,722,100 <sup>10</sup> |                           |
| Surfside-Sunset-Newport, CA (Stage 11)  | Active                               | 1997                                       | 292,000                 |                           |
| Ventura-Pierpont area, CA   | Completed (part) and Deferred (part) | 1969                                       | 715,819 <sup>11</sup>   |                           |

1. The project authorized by the Act of Congress of October 23, 1962, H.Doc.602, 87th Cong., 2d sess., in lieu of part of the original Anaheim Bay Harbor project is covered under San Gabriel River to Newport Bay (Surfside-Sunset and Newport Beach), Orange County, CA

2. Authorized by Chief of Engineers under authority of Section 103, Public Law 87-874.

3. Excludes 475,614 required contributed funds.

4. Excludes \$1,238,418 required contributed funds.

5. Excludes \$431,260 required contributed funds.

6. Excludes \$919,437 required contributed funds; \$66,124 other contributed funds; and Coast Guard costs.

7. Plant in service.

8. Excludes \$604,817 other contributed funds.

9. Excludes \$180,438 required contributed funds.

10. Excludes \$4,626,638 for required contributed funds. Includes \$10,772 expended in Fiscal Year 1987.

11. Excludes \$1,117,406 other contributed funds for beach-nourishment betterments and \$618,949 required contributed funds.

**LOS ANGELES, CA, DISTRICT**

**TABLE 33-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

| Project   | Status                               | For Last<br>Full Report<br>See Annual<br>Report For | Cost to 30 Sep 2001       |                              |
|---|--------------------------------------|---|---------------------------|------------------------------|
|   |                                      |   | Construction              | Operation and<br>Maintenance |
| Allenville, AZ <sup>1</sup>   | Completed                            | 1984  | \$ 3,000,000 <sup>2</sup> |                              |
| City Creek levee, San Bernardino County, CA <sup>1</sup>  | Completed                            |   | 400,000 <sup>2</sup>      |                              |
| Clifton, San Francisco River, AZ  | Active                               | 1988  | 12,510,000                |                              |
| Coyote and Berryessa Creeks CA  | Active                               | 1989  | 56,300,000                |                              |
| Gila River Basin, AZ:   | Deferred                             | 1963  |                           |                              |
| Camelsback Dam (Gila River)   |                                      |   |                           |                              |
| Gila and Salt Rivers levee and channel improvements   | Active (part) and<br>Deferred (part) | 1966  | 73,201 <sup>4</sup>       |                              |
| Indian Bend Wash  | Completed                            | 1985  | 31,809,294 <sup>5</sup>   |                              |
| Lower Gila River levee and channel improvements (Gila River and tributaries downstream from Painted Rock Dam)             | Inactive                             | 1975  | 2,413,051                 |                              |
| Middle Gila River channel improvements, upper end of Safford Valley to Buttes dam site (Camelsback damsite to Salt River) | Active                               | 1970  | 402,867                   |                              |
| Pinal Creek channel improvements (Globe)  | Deferred                             | 1968  | 121,509 <sup>4</sup>      |                              |
| Santa Rosa Wash (Tat Momolikit Dam and Lake St. Clair)  | Completed                            | 1982  | 10,218,900                |                              |
| Tucson Diversion Channel  | Completed                            | 1986  | 6,922,633 <sup>6</sup>    |                              |
| Goleta, CA, and Vicinity  | Active                               | 1982  | 500,000                   |                              |
| Hansen Dam, Los Angeles County <sup>7</sup>   |                                      |   |                           |                              |
| Drainage Area, CA (mod)   |                                      |   |                           |                              |
| Holbrook levee Little Colorado River, Colorado River Basin, AZ  | Completed                            | 1950  | 335,000                   |                              |
| Little Colorado River at Holbrook <sup>7</sup>  | Completed                            | 1996  |                           |                              |
| Needles, San Bernardino Co.   | Completed                            | 1973  | 1,000,000 <sup>8</sup>    |                              |
| Nogales Wash and Tributaries, AZ  | Active                               | 1989  | 11,100,000                |                              |
| Oceanside Harbor, CA  | Completed                            | 1989  | 5,100,000                 |                              |
| Oro Grande Wash channel improvements, Mojave River Basin, CA <sup>1</sup>   | Completed                            | 1970  | 1,000,000 <sup>9</sup>    |                              |
| Phoenix, AZ and Vicinity (Gila River)   | Completed                            |   |                           |                              |
| Quail Wash levee, Joshua Tree, San Bernardino Co. CA  | Completed                            |   | 212,745                   |                              |
| Ridgecrest, Kern County, CA <sup>1</sup>  | Terminated                           | 1973  | 195,194                   |                              |
| Rose Creek channel improvements, San Diego, CA <sup>1</sup>   | Completed                            | 1972  | 982,432 <sup>10</sup>     |                              |
| San Diego River Basin, CA   |                                      |   |                           |                              |
| Santa Ana River Basin, CA:  |                                      |   |                           |                              |
| Devil, East Twin, and Warm Creeks channel improvements and Lytle Creek levee  | Completed                            | 1962  | 7,753,937 <sup>11</sup>   |                              |
| Mill Creek levees   | Completed                            | 1961  | 617,890 <sup>12</sup>     |                              |
| Riverside levees  | Completed                            | 1959  | 2,104,478                 |                              |
| San Jacinto River levee and Bautista Creek channel  | Completed                            | 1985  | 9,258,207 <sup>13</sup>   |                              |
| Santa Clara River levee improvement, Santa Clara River Basin, CA  | Completed                            | 1961  | 2,126,672                 |                              |
| Santa Maria Valley levees, Santa Maria River Basin, CA  | Completed                            | 1984  | 10,079,927 <sup>14</sup>  |                              |
| Santa Paula Creek channel and debris basins (including Mud  | Active                               | 1983  | 4,790,173 <sup>15</sup>   |                              |

**TABLE 33-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

|   |                                      |      |                         |
|---|--------------------------------------|------|-------------------------|
| Creek), Santa Clara River Basin, CA   |                                      |      |                         |
| Sespe Creek at Fillmore, Ventura County, CA <sup>1</sup>                        | Completed                            | 1984 | 4,000,000 <sup>16</sup> |
| South Fork of the Santa Clara River, Santa Clarita Valley, CA <sup>1</sup>      | Active                               | 1985 | 632,158                 |
| Telegraph Canyon Creek, Chula Vista, CA <sup>1</sup>                            | Completed                            | 1985 | 844,732 <sup>17</sup>   |
| Tijuana River Basin, CA   | Completed                            | 1979 | 1,703,031 <sup>18</sup> |
| Ventura Harbor, CA  | Active                               | 1990 | 6,455,000               |
| Ventura River Basin, CA:  |                                      |      |                         |
| Stewart Canyon debris basin and channel   | Completed                            | 1964 | 939,908 <sup>19</sup>   |
| Ventura River levee   | Completed                            | 1950 | 1,349,638 <sup>20</sup> |
| Whitewater River, CA:   |                                      |      |                         |
| Banning Levee-San Geronio River, Riverside County <sup>1</sup>                  | Completed                            | 1966 | 97,868                  |
| Chino Canyon improvements, Palm Springs <sup>1</sup>                            | Completed                            | 1973 | 819,878 <sup>21</sup>   |
| Tahchevah Creek detention basin and channel improvements                        | Completed                            | 1967 | 1,420,552 <sup>22</sup> |
| Tahquitz Creek  | Inactive                             | 1974 | 1,063,600               |
| Winslow (tributaries of Little Colorado River), Little Colorado River Basin, AZ | Completed (part) and Deferred (part) | 1973 | 1,831,300               |

1. Authorized by Chief of Engineers under authority of Section 205, Public Law 80-858, as amended.

2. Excludes \$187,965 required contributed funds.

3. Excludes \$371,058 other contributed funds.

4. Advance planning only.

5. Excludes \$304,720 required contributed funds and \$3,130,762 other contributed funds. Includes \$31,071 expanded

6. Includes \$1,158,006 Code 710 funds since Fiscal Year 1977.

Excludes \$749,058 required contributed funds and \$394,364 funds.

7. Authorized by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986.

8. Excludes \$619,912 required contributed funds and \$91,160 other contributed funds.

9. Excludes \$514,806 required contributed funds and \$176,295 other contributed funds.

10. Excludes \$251,000 required contributed funds and \$154,733 other contributed funds.

22. Excludes \$74,718 required contributed funds.

11. Excludes \$200,000 required contributed funds and \$1,641,668 other contributed funds.

12. Excludes \$35,830 other contributed funds.

13. Excludes \$712,000 other contributed funds.

14. Excludes \$106,364 other contributed funds.

Includes \$74 expended in Fiscal Year 1987.

15. Excludes non-Federal costs of \$295,000 for local cooperation items for required and \$49,458

16. Excludes \$559,525 required contributed other funds.

17. Includes \$3,846 expended in Fiscal Year 1987. Excludes \$104,941 other contributed funds.

18. International Boundary & Water Commission funds

19. Excludes \$179,148 other contributed funds.

20. Includes \$6,000 Code 710 funds since Fiscal Year 1977.

Excludes \$17,006 other contributed funds.

21. Excludes \$8,718 required contributed funds; \$53,470 other contributed funds.



**LOS ANGELES, CA, DISTRICT**

**TABLE 33-G DEAUTHORIZED PROJECTS**

| Project  | For Last<br>Full Report<br>See Annual<br>Report For | Date<br>and<br>Authority                       | Federal<br>Funds<br>Expended | Contributed<br>Funds<br>Expended |
|--|---|--|------------------------------|----------------------------------|
| Hodges Dam, San Dieguito<br>River Basin, CA                          | 1958  | 1978<br>Sec. 12, Public<br>Law 93-251          |                              |                                  |
| Las Vegas Wash Tributaries,<br>Colorado River Basin, NV              | 1964  | 1977<br>Sec. 12, Public<br>Law 93,251          | 295,191                      |                                  |
| Santa Ana River Basin (and<br>Orange County), CA:                    |   |  |                              |                                  |
| Aliso Creek Dam, CA  |   | 1986<br>Sec. 1002 Public<br>Law 99-662         |                              |                                  |
| San Juan Dam, CA   | 1950  | 1986<br>Sec. 1002, Public<br>Law 99-662        | 67,361                       |                                  |
| Trabuco Dam, CA  |   | 1986<br>Sec. 1002, Public<br>Law 99-662        |                              |                                  |
| Villa Park Dam, CA   |   | 1978<br>Sec. 12, Public<br>Law 93-251          |                              |                                  |
| Sierra Madre Wash Channel<br>Los Angeles County Drainage<br>Area, CA | 1986  | 1986<br>Sec. 1002, Public<br>Law 99-662        |                              |                                  |
| Lower Mission Creek<br>Santa Barbara, CA                             | 1988  | 1988<br>Sec. 1001(A), Public<br>Law 99-662     | 1,641,144                    |                                  |
| San Diego River Mission<br>Valley, CA                                | 1978  | 1978<br>Sec 1001 (B) (2), Public<br>Law 99-662 | 1,708,437                    |                                  |
| University Wash and Spring<br>Brook, Riverside, CA                   | 1975  | 1986<br>Sec. 1002, Public<br>Law 99-662        | 213,313                      |                                  |

**TABLE 33-H RECONNAISSANCE AND CONDITION SURVEYS**

| Project  | Date     |
|--|----------|
| Channel Islands Harbor                                   | Jun 2001 |
| Dana Point Harbor  | Aug 2001 |
| Los Angeles-Long Beach Harbors, CA (Port of Los Angeles) | Mar 2001 |
| Port of Long Beach, CA                                   | Apr 2000 |
| Los Angeles River Estuary, CA                            | Jul 2001 |
| Marina Del Rey, CA                                       | Feb 2001 |
| Morro Bay Harbor, CA                                     | Sep 2001 |
| Newport Bay Harbor, CA                                   | May 2001 |
| Oceanside Harbor, CA                                     | Mar 2001 |
| Port Hueneme, CA   | Jun 2001 |
| San Diego Harbor, CA                                     | Jul 2001 |
| San Diego River-Mission Bay, CA                          | Jun 2001 |
| Santa Barbara Harbor, CA                                 | May 2001 |
| Ventura Harbor, CA                                       | Jan 2001 |

LOS ANGELES, CA, DISTRICT

**TABLE 33-I**

**INSPECTION OF COMPLETED  
FLOOD CONTROL PROJECTS**

(See Section 38 of Text)

| Project  | Date                |
|--|---------------------|
| Los Angeles County Drainage Area, CA<br>(250 miles of channels and 21 Debris Basins) | Oct 2000 – Sep 2001 |
| Santa Ana River Basin and Orange County, CA<br>(48 miles of channels)                | Oct 2000 – Sep 2001 |
| City Creek Levee, CA   | Oct 2000            |
| Needles, CA  | Nov 2000            |
| Oro Grande Wash, CA  | Nov 2000            |
| Tat Momolikot Dam, AZ  | May 2001            |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 33-J                      FLOOD CONTROL WORK UNDER SPECIAL  
AUTHORIZATION FLOOD CONTROL ACTIVITIES  
PURSUANT TO SECTION 205, PUBLIC LAW 80-858,  
AS AMENDED (PREAUTHORIZATION)  
(See Section 40 of Text)**

| Study                                      | Stage         | Fiscal Year<br>Cost<br>(Federal) |
|--|---------------|----------------------------------|
| Anaverde Creek, Palmdale, CA               | Feasibility   | \$ 17,064                        |
| Arizona State Flood Warning, AZ            | Construction  | 250,864                          |
| Arroyo Grande Creek, AZ                    | Feasibility   | 31,019                           |
| City of Laguna Beach, CA                   | Plans & specs | 252,040                          |
| Ephriam Canyon Wash, AZ                    | Feasibility   | 1,472                            |
| Forest Falls, San Bernardino County, CA    | Feasibility   | 61,416                           |
| Little Tijuana River, San Diego County, CA | Plans & specs | 62,852                           |
| San Jose Creek Near Hollister, CA          | Feasibility   | 13,703                           |
| Santa Clara River, Old Road Bridge, CA     | Feasibility   | 39,911                           |
| Section 205 Coordination Account           |               | 6,173                            |
| Westside Storm Water Retention Facility    | Feasibility   | <u>9,957</u>                     |
|  |               | \$746,472                        |

# SAN FRANCISCO, CA, DISTRICT

This district comprises the Klamath River Basin in southern Oregon and portions of northern and western California consisting of drainage basins tributary to the Pacific Ocean from the Oregon-California State line on

the north to Cape San Martin, CA, on the south except for basins tributary to the San Francisco Bay system which lie east of the Benecia-Martinez Bridge.

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### Navigation

#### 1. CRESCENT CITY HARBOR, CA

**Location.** The project is located in Crescent City, Del Norte County approximately 350 miles north of San Francisco and 17 miles south of the Oregon border.

**Existing project.** There are three existing Federally maintained navigation channels at Crescent City Harbor. The Entrance Channel begins at the outer breakwater and is

-20 feet MLLW (Mean Lower Low Water), 2,600 feet long, and 320 to 200 feet wide. The Entrance Channel connects to the Inner Harbor Basin, which is 1,500 feet long and extends from the Entrance Channel along the lee side of the inner breakwater. The Inner Harbor Basin is authorized to -20 feet MLLW, but since 1993 has been maintained at -15 feet MLLW due to economic justification.

The new access channel extends 1,200 feet from the Inner Harbor Basin to the entrance of the Small Boat Basin, and varies in width from 140 feet to 210 feet with a channel depth of -14 feet MLLW.

**Local cooperation.** The local sponsor is the Crescent City Harbor District. The Project Cooperation Agreement was signed in June 2000 and satisfied the requirements of the Water Resources Development Act of 1986, as amended, PL 99-662. The agreement includes the following requirements: 1) provide lands, easements, rights-of-way, and dredged material disposal areas; 2) pay 10 percent of the costs of new construction; and 3) pay an additional 10 percent plus interest of the project costs allocated to general navigation features within a period of 30 years following completion of construction.

**Terminal facilities.** The Harbor contains a commercial small boat basin with 240 permanent berths and temporary moorings for approximately 20 vessels, a 250 slip recreational mooring facility, two fish processing plants with docks, a main dock, a marine repair facility, a U.S. Coast Guard dock, and other auxiliary commercial and recreational facilities.

**Operations during fiscal year.** New Work: Construction completed in November 2000. Maintenance: Operations and maintenance includes engineering and design for fall dredging on a 5 year dredging cycle.

## **2. HUMBOLDT HARBOR, CA**

**Location.** The project is located in Humboldt Bay, about 280 miles north of San Francisco.

**Existing project.** Adopted by Acts of March 3, 1881, July 5, 1884, August 5, 1886, July 3, 1892, March 3, 1889, June 25, 1910, July 3, 1930, August 30, 1935, August 26, 1937, July 16, 1952, and August 1968. The project consists of: 1) a Bar and Entrance Channel -48 feet deep, tapering from a width of 1,600 feet at seaward mile 0.9 to 500 feet at seaward mile 0.2 and then 500 feet wide to mile 0.8; 2) a North Bay Channel -38 feet deep and 400 feet wide between mile 0.75 and mile 4.29; 3) an Outer Eureka Channel 35 feet deep and 400 feet wide between mile 4.29 and mile 5.0; 4) an Inner Eureka Channel between mile 5.0 and mile 6.30 which is 26 feet deep and 400 feet wide; 5) a Samoa Channel -38 feet deep and 400 feet wide between mile 4.29 and mile 5.84; 6) a Turning Basin beyond mile 5.84 at the upper end of the Samoa Channel which is -38 feet deep and 1,000 feet wide by 1,000 feet long; 7) an Anchorage Area 35 feet and 1,200 feet wide by 1,200 feet long in the North Bay between the Entrance Channel and Gunther Island (the anchorage area is not maintained); 8) a Fields Landing Channel 26 feet deep and 300 feet wide and a turning basin at mile 3.16 which is 600 feet wide and 800 feet long; and 9) Arcata Channel located in the extreme North Bay (18 feet

deep and 150 feet wide) is no longer used for commercial navigation and has not been maintained since 1931.

The Water Resources Development Act of 1996 authorized deepening the Bar and Entrance Channel to a depth of -48 MLLW; deepening the North Bay Channel, Samoa Channel, and Samoa Turning Basin to a depth of -38 feet MLLW; widening the north side of the Entrance Channel an additional 200 to 275 feet; moving the southern edge of the Entrance Channel away from the South Jetty and to the north by 100 feet; and widening and realigning the entrance to the Samoa Turning Basin. Project cost is \$16,689,000 of which \$12,099,000 is Federal cost (includes \$200,000 Coast Guard cost) and \$4,590,000 is non-Federal cost (includes \$1,680,000 non-Federal reimbursements).

**Local cooperation.** The local sponsor is the Humboldt Bay Harbor, Recreation and Conservation District. The Project Cooperation Agreement was signed in March 1999 and satisfied the requirements of the Water Resources Development Act of 1986, as amended, PL 99-662. The agreement includes the following requirements: 1) provide lands, easements, rights-of-way, and dredged material disposal areas; 2) pay 25 percent of the costs of construction; and 3) pay an additional 10 percent plus interest of the project costs allocated to deep draft navigation within a period of 30 years following completion of construction.

**Terminal facilities.** The harbor serves six deep water breakbulk terminals with storage space for 120,000,000 FBM of logs/lumber and 100,000 MT of woodchips and warehouse space for 1,000,000 FBM of lumber and 51,000 MT of woodpulp and particle board.

**Operations during fiscal year.** New Work: Construction completed in April 2000. Maintenance: Normal O&M dredging was performed with the Essayons and Yaquina. A combined total of 1,287,155 cubic yards were removed at a cost of \$3,078. All dredged material was deposited in the permanently designated, Government-furnished, Humboldt Open Ocean Disposal Site (HOODS).

## **3. OAKLAND HARBOR, CA**

**Location.** Oakland Harbor is located in the City of Oakland, California, on the eastern shore of central San Francisco Bay immediately south of San Francisco-Oakland Bay Bridge.

**Existing project.** Adopted by Acts of June 23, 1874, June 25, 1910, September 22, 1922, January 21, 1927, April 28, 1928, July 3, 1930, March 2, 1945 and October 23,

1962. The project was completed February 1975, except for deepening the tidal canal to 35 feet from Fortman Basin to Park Street, and to 25 feet above Park Street which was deauthorized November 1977. Reconstruction of the Fruitvale Avenue Highway Bridge was completed in December 1973 and turned over to local interests for operation and maintenance. Project consists of entrance channel to Oakland Outer Harbor, -42 feet deep from deep water in San Francisco Bay and 800 feet wide across the shoal southeast of Yerba Buena Island, narrowing to 600 feet at Oakland Mole; thence, a channel and turning basin - 42 feet deep and from 600 to 950 feet wide in outer harbor to the Army Base. Project also provides entrance channel to Oakland Inner Harbor, -42 feet deep and 600 feet wide to Howard Terminal and 35 feet deep to west end of Government Island, with additional widening to within 75 feet of the pierhead line in front of Grove and Market Street (formerly municipal) piers and along the south side of the channel from Harrison Street eastward to harbor line point 119 in Brooklyn Basin; a channel 35 feet deep and 500 feet wide through Brooklyn Basin; for a triangular area 35 feet deep about 2,700 feet long and maximum width of 300 feet at western end of Brooklyn Basin; a channel along north side of Brooklyn Basin which is 35 feet deep and 300 feet wide for 1,300 feet, thence 25 feet deep and 300 feet wide for 3,700 feet to a turning basin at east end of Brooklyn Basin which is 35 feet deep, 500 feet wide, and 1,200 feet long; a channel in the tidal canal 35 feet deep and 275 feet wide from Brooklyn Basin to Park Street, thence 18 feet deep to San Leandro Bay; a total channel length of 8-1/2 miles from San Francisco Bay to San Leandro Bay. Project also includes parallel rubblemound jetties at entrance to inner harbor, north jetty 9,500 feet long and south jetty 12,000 feet long; three highway bridges across the tidal canal, two of which (at Park Street and High Street) have been replaced by local interests and the Fruitvale Avenue Bridge constructed by Federal Government has been transferred to Alameda County. The railroad bridge has been transferred to the County for operation and maintenance. The Federal Government will reimburse the County for the cost of operating and maintaining the railroad bridge.

Oakland Harbor is the 2<sup>nd</sup> largest port on the West Coast and the fifth largest container port in the nation. Traffic consists primarily of containers and containers ships. Ports around the world are increasing channel depths and expanding throughput capacity to compete for the next generation of deep-draft container ships. The Port is proposing to deepen the federal channels of the Oakland Harbor and Port-maintained berths to depths of 50' below MLLW. In constructing this project, the Port expects to dredge up to 12.9 million cubic yards of sediment, which will require reuse and disposal. If the Port does not get

down to -50', shipping companies will bypass the Port of Oakland. This will hurt not just the Port of Oakland, but the overall Bay Area economy as well. The recommended/ Locally Preferred Plan has a benefit-cost-ratio greater than 6.4 to 1. The estimated construction cost is \$252.3 million, including \$38 million of local service facilities (LSF) (berth rehabilitation & deepening). Disposal options for dredged material include the San Francisco Deep Ocean Disposal Site (SF-DODS), Middle Harbor or the Fleet and Industrial Supply, Oakland (FISCO), Hamilton Airfield, Montezuma wetland restoration project, together with upland disposal/reuse at Mare Island and Alameda Point. Water Resources Development Act (WRDA) of 1999 authorized this project for \$252.3 million.

**Local cooperation.** A draft Project Cooperation Agreement satisfying the requirements of the Water Resources Development Act of 1986, PL 99-662 was sent to Corps Headquarters for review and approval in early Feb 2001. Final PCA was executed on the 24 May 2001. The agreement includes the following requirements: (1) provide lands, easements, rights-of-way, and dredged material disposal areas; (2) pay 25 percent of the costs allocated to deep draft navigation during construction to a depth in excess of 20 feet but not in excess of 45'; (3) pay 50% of the costs allocated to deep draft navigation during construction in excess of 45'; and (4) pay additional 10 percent plus interests of the costs allocated to deep draft navigation within a period of 30 years following completion of construction. Deepening to 42' MLLW was completed in July 1998. The Port of Oakland completed a feasibility study to deepen Oakland Harbor to -50' MLLW at 100% Port cost under the authority of Section 203 of WRDA 86. The estimated project cost is \$284 million with an average annual navigation benefit of \$178 million. Project was authorized in WRDA 99. Construction began in October 2001 with a demolition contract for the Inner Harbor Turning Basin.

**Terminal facilities.** The port occupies 19 miles on the mainland shore of San Francisco Bay. There are 550 acres of marine terminal facilities, 28 deepwater berths and 25 container cranes, including 5 of the post Panamax type. On-dock covered storage space exceeds 600,000 square feet. Three major railroads, Santa Fe, Southern Pacific and Union Pacific serve the port.

**Operations during fiscal year.** New Work: Construction to a depth in excess of 20 feet but not in excess of 45'. Maintenance: Operations and maintenance of Fruitvale Avenue R.R. Bridge including engineering and design by hired labor, cost \$289,600; operations and maintenance of Miller-Sweeney Highway Bridge, cost \$180,900; and operations and maintenance of Oakland

Harbor 218,830 cubic yards removed at a cost of \$3,090,059. San Francisco Deep Ocean Disposal Site (SF-DODS) was utilized for material disposal. The FY 02 operation and maintenance work is scheduled in August 2002.

#### **4. RICHMOND HARBOR, CA**

**Location.** Richmond Harbor is located in central San Francisco Bay, in Contra Costa County in the City of Richmond.

**Existing project.** The existing navigation channel extends from deep water in San Francisco Bay into the Port of Richmond. The Southampton Shoal Channel and Long Wharf Maneuvering Area, at the entrance to the harbor channels are maintained to -45 feet MLLW. The Entrance Channel, Potrero Reach Channel, Potrero Sharp Turn, Inner Harbor and about half of the Santa Fe Channel, to -38 feet and the remainder of the Santa Fe Channel from the Lauritzen Channel confluence to -30 feet. The width of the navigation channel is 600 feet for most of its length to Point Richmond with one maneuvering area: in front of the Long Wharf. At Potrero Reach, the 500 foot width flares to about 600 feet at Point Potrero with a turn at the point, 1,200 feet wide and 38 feet deep. Thence, the channel continues into the Inner Harbor at a width of 850 feet in a northerly direction to the entrance of the Santa Fe Channel. The Santa Fe Channel extends northwesterly at a width of 200 feet into the upper basin terminus. A turning basin is provided at Point Richmond, and a rubble-mound training wall extending 10,000 feet westerly from Brooks Island is also provided in the Potrero Reach. For details, see page 1977 of Annual Report for 1915 and page 1646 of Annual Report for 1938.

Improvements consisted of a construction plan involving four and one-half miles of channel between Richmond Long Wharf and the Santa Fe Channel. The project deepened the existing 35-foot channels to 38 feet, and provided a turning basin of 1,200 feet near Point Potrero. Approximately 2,200,000 cubic yards of sediment were dredged and transported to aquatic and upland disposal sites. Construction was completed in August 1998.

The project cost is \$40,000,000 of which \$28,300,000 is Federal cost (includes \$130,000 Coast Guard costs) and \$11,700,000 is non-Federal cost (includes \$1,310,000 non-Federal reimbursements).

The existing project was authorized on October 27, 1965. Previous projects were authorized by Acts adopted in 1917, 1930, 1935, 1938, 1945 and 1954. The proposed

improvements are authorized by the Water Resources Development Act of 1986, PL 99-662.

**Local cooperation.** In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the local sponsor must comply with the following requirements: (1) pay 10 percent of the costs to 20 feet below mean lower low water and 25 percent of costs between 20 and 45 feet below mean lower low water and (2) reimburse an additional 10 percent with interest of the costs allocated to general navigation facility of the project within a period of 30 years following completion of construction; and (3) provide all lands, easements, rights-of-way, relocation and dredged material disposal areas necessary for the projects. The value of lands, easements, rights-of-way and dredge disposal areas can be credited toward the payment required under item (2) above.

**Terminal activities.** The Port of Richmond encompasses nine privately-owned terminals and seven terminals owned by the Port.

**Operations during fiscal year.** New Work: Construction project completed in May 1998. Maintenance: Operations and maintenance dredging of Richmond Outer Harbor was performed by the U.S. Hopper dredge "Essayons." The Essayons removed 192,958 cubic yards of shoal material from the Outer Harbor, cost \$648,000. The Inner Harbor portion, 390,642 cubic yards were removed at a cost of \$3,105,128. The FY 02 Operation and Maintenance dredging is scheduled in early July 2002.

#### **5. SAN FRANCISCO BAY TO STOCKTON, CA (JOHN F. BALDWIN AND STOCKTON SHIP CHANNELS)**

**Location.** The location is the John F. Baldwin Ship Channel. Navigation channels extending from entrance to San Francisco Bay to Suisun Bay near Martinez through San Francisco, Marin, Contra Costa, and Solano Counties. (See National Ocean Service Charts 18649, 18654 and 18656 for respective areas.)

**Existing project.** Project provides for modification of the existing San Francisco Harbor, Richmond Harbor, San Pablo Bay and Suisun Bay Channels to the vicinity of Pt. Avon to provide depths of 55 feet for San Francisco Bar Channel, 45 feet (currently 35 feet) for main internal bay channels upstream to the vicinity of Pt. Avon; enlargement and deepening to 45 feet (currently 35 feet) of maneuvering



areas adjacent to major petroleum refinery terminals along the channel route. San Francisco Harbor Main Channel was completed in February 1974. The South Hampton Shoal Channel and the Richmond Long Wharf maneuvering area were completed in December 1986. For the approved cost estimate (1996) of Federal cost (Corps), see Sacramento District Annual Report. Existing project was adopted by 1965 River and Harbor Act (H. Doc. 208, 89th Cong., 1st sess., contains latest published map). Estimated volume of dredged material is 9 million cubic yards.

**Local cooperation.** Based on request to improve the navigational safety at the oil terminals at Avon by the San Francisco Bar Pilots and the shipping industries, the Contra Costa County Water Agency requested funding to allow for the Corps of Engineers reevaluation of the turning basin at Avon, as a congressional add in the Federal FY 01 budget. As part of the 2001 Energy and Water Development Appropriation Bill, the House Committee on Appropriation directed the Corps to complete the General Reevaluation Report. The local sponsor, Contra Costa County, supports the project.

**Terminal facilities.** See Port Series No. 30, revised 1991, No. 31, revised 1991, and No. 32, revised 1986, titled respectively: "The Ports of San Francisco, Redwood City, and Humboldt Bay, Calif."; "The Ports of Oakland, Alameda, Richmond, and the Ports on Carquinez Strait, Calif."; and "The Ports of Sacramento, Stockton, Pittsburg, and Antioch, Calif." Facilities are considered adequate for existing commerce and will be adequate for future commerce upon completion of new terminal facilities.

**Operations during fiscal year.** New Work: Continued planning engineering and design activities.

## 6. SONOMA BAYLANDS WETLANDS DEMONSTRATION PROJECT, CA

**Location.** The Sonoma Baylands site is located in Sonoma County, CA, approximately 25 miles north of San Francisco near the mouth of the Petaluma River, on the northern shoreline of San Pablo Bay.

**Existing project.** Authorized by Water Resources Development Act of 1992. The project includes restoration of tidal wetlands on 348 acres of diked lands, including construction of 11,645 feet of replacement levee around the landward periphery of the site, fifteen internal peninsulas for wave protection, three weirs for the discharge of dredged material supernatant, and modification of three existing high voltage electrical towers. Project included placement of

207,000 cubic yards of maintenance-dredged material from the Petaluma River navigation channel in a pilot project area and placement of 1.7 million cubic yards of suitable dredged material from the Oakland Harbor deepening projects on the remainder of the site. Placement of material was completed on November 6, 1995.

The project cost is \$8,900,000, of which \$6,675,000 is Federal cost and \$2,225,000 is non-Federal cost. Oakland deepening to -42' MLLW was completed in July 1998.

**Local cooperation.** The California State Coastal Conservancy signed a Project Cooperation Agreement on May 6, 1994 satisfying the requirements of the Water Resources Development Act of 1992, PL 102-580 and signed an amendment on December 9, 1994 to include the placement of Oakland Harbor dredged material. The local sponsor must comply with the following requirements: (1) provide lands, easement, and right of ways; (2) modify or relocate utilities, roads, bridges (except railroad bridges) and other facilities, where necessary in the construction of the project; (pay 25 percent of the total project cost in accordance with Section 106 of the Water Resources Development Act of 1992. The local sponsor has also agreed to make all required payments concurrently with project construction.

**Terminal facilities.** N/A

**Operations during fiscal year.** The project was restored to tidal action on October 25, 1996. Monitoring of the project is continuing. Project was turned over to California Coastal Conservancy in August 1998 for operation, maintenance, repair, replacement, and rehabilitation of the functional portion of the project.

## 7. SAN FRANCISCO BAY-DELTA MODEL STRUCTURE, CA

**Location.** The model, including a Class A regional visitor center, is located in Sausalito, CA, adjacent to San Francisco Bay about two miles north of the Golden Gate Bridge.

**Existing project.** The San Francisco Bay/Delta Model, which covers 17 miles of the Pacific Ocean beyond the Golden Gate, all of San Francisco Bay proper, San Pablo Bay, Suisun Bay, and all of the Sacramento-San Joaquin Delta east of Suisun Bay to the cities of Sacramento on the northeast and Stockton and Tracy on the south, was constructed in a rehabilitated warehouse at Sausalito, CA, as a part of the San Francisco Bay and Tributaries, CA, Study authorized by the River and Harbor Act of May 17, 1950

(PL 81- 516, Section 110). The model was authorized as an operation and maintenance project in the Water Resources Development Act of 1974 (PL 93-251, Section 8). The model successfully reproduces to the proper scale the rise and fall of the tide, flow and currents of water, salinity intrusion, and trends in disposition of sediments. It is a useful tool to examine forces existing in the bay and estuarine system and to predict results of proposed changes.

**Local cooperation.** None required.

**Operations during fiscal year.** Maintenance: Operations and maintenance of the model continues.

**Historical summary.** Original model construction was initiated 1956 and completed 1957. The addition of the Sacramento-San Joaquin Delta to the original model was initiated 1966 and completed 1969. Annual visitation to the model averages between 140,000 to 150,000 people. The central exhibits were completed in December 1981. Extensive exhibit upgrade for the Visitor Center and development of Cooperative Association completed September 30, 1989. The Cooperative Association provides financial and educational support to both engineering operations and visitor center programming. An active volunteer program exists at the Visitor Center providing approximately 300 hours of effort monthly. The hydraulic engineering department closed 4 January 2000. The Visitor Center operations continues to offer public information-educational services via programs, exhibits, and special events. The Visitor Center is currently developing new interpretive and exhibit plans.

Total cost of regional visitor exhibits and model as of September 30, 2001, was \$38,882,158 of which \$16,065,955 was for the regional visitor center, \$1,383,324 for exhibits, and \$21,432,879 for maintenance.

## **8. SAN FRANCISCO BAY LONG TERM MANAGEMENT STRATEGY (LTMS), CA**

**Location.** The San Francisco Bay Long-Term Management Strategy (LTMS) for dredged material disposal covers deep and shallow draft navigation channels of the San Francisco Bay region including Central San Francisco Bay, South Bay, San Pablo Bay and Suisun Bay environs.

**Existing project.** The San Francisco Bay region has an annual disposal requirement of approximately 5 million cubic yards (mcy) to maintain navigation channels. The Bay also has a one-time new civil works requirement of

approximately 16 mcy for the Oakland Harbor, and John F. Baldwin Phase III ship channel. In January 1990, the Army Corps of Engineers, the Environmental Protection Agency, Region IX, the San Francisco Bay Water Quality Control Board and the San Francisco Bay Conservation and Development Commission convened with approximately thirty interested agencies and organizations with concerns regarding dredged material disposal in San Francisco Bay. These four agencies have the responsibility for regulation of the waters of the US and California for disposal of dredged material.

The four agencies and the concerned navigation interests formed the LTMS to develop technically feasible, economically prudent, and environmentally acceptable long range solutions to the dredging and disposal needs for the San Francisco Bay region over the next fifty years. In determining acceptable dredged material disposal locations, the LTMS is evaluating a broad array of potential ocean, in-Bay and non-aquatic beneficial uses disposal alternatives.

**Local cooperation.** Pursuant to their regulatory responsibilities, the Division Commander of the South Pacific Division, Corps of Engineers; the Regional Administrator of the Environmental Protection Agency, Region IX; the Chair of the San Francisco Bay Regional Water Quality Board and the Chair of the San Francisco Bay Conservation and Development Commission agreed to jointly undertake the development and implementation of a Long Term Management Strategy (LTMS) for dredging and disposal of dredged materials from the region. Based on the outputs from the LTMS, the Regional Water Quality Control Board (RWQCB) and the Bay Conservation and Development Commission (BCDC) will consider modifications to the dredging elements of their respective Basin and Bay Plans for San Francisco Bay.

**Regulatory Streamlining:** Besides identifying implementable disposal options, the LTMS will: (1) develop coordinated regional disposal policies between federal and state agencies; (2) provide a local decision-making framework for dredging and disposal projects; (3) streamline existing permit and testing procedures; and (4) provide a long term site monitoring apparatus and feedback mechanism.

**Operations during fiscal year.** In 1994, the Environmental Protection Agency (EPA) designated a deep ocean disposal site. In 1996, the Corps, EPA, and the State of California implemented a joint agency Dredged Material Management Office (DMMO) for dredging permit processing.

The Final LTMS EIS was cleared in 1998 and the Record of Decision was signed in 1999. The EIS identified Alternative 3 as the preferred alternative which would limit future dredged material disposal to 20% in the San Francisco Bay, 40% in the ocean, and 40% for upland beneficial reuse. ROD initiated implementation for Federal agencies.

In December 2001, the South Pacific Division Commander, EPA's Region IX Administrator, Chairmen of the San Francisco Bay Regional Water Quality Control Board, Chairwoman of the San Francisco Bay Conservation and Development Commission and the Executive Committee of the State Water Resources Control Board, as the members of the LTMS Executive Committee, approved the final LTMS Management Plan, directing implementation of the program. Adoption of the management plan will require amending the Bay and Basin Plans. BCDC amended the San Francisco Bay Plans in December 2000 and the RWQCB is scheduled to amend the San Francisco Bay Plans in April 2002.

In general, the first phase of implementation will focus on the completion of the Corps Regional Dredge Material Management Plan for San Francisco Bay, with a future project-by-project analysis for "practicability" in terms of fiscal and environmental impacts, that would then be assembled as a regional composite EIS. This effort is scheduled to be initiated in FY 02.

## **9. RECONNAISSANCE AND CONDITION SURVEYS**

Reconnaissance and condition surveys of channels to be dredged in years other than Fiscal Year 2001 and jetty structures were conducted on the following projects: Berkeley; Bodega Bay; Crescent City Harbor; Islais Creek; Mare Island Strait; Monterey Harbor; Moss Landing Harbor; Noyo River; Petaluma River; Pillar Point; Pinole Shoal; Redwood City; Richmond Harbor; San Leandro Marina; San Rafael; Santa Cruz; Sausalito Canal; and Suisun Channel; all in California. Fiscal year costs were \$883,568.

## **10. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION**

**Navigation activities pursuant to Section 107, Public Law 86-645 (preauthorization).**

Fiscal Year costs were \$24,959 for Pillar Point Harbor, CA.; and \$19,426 for Oyster Point Harbor, CA.

**Mitigation of shore damages activities pursuant to Section 111, Public Law 90-483 (preauthorization).**

None.

## **11. BEACH EROSION CONTROL WORK UNDER SPECIAL AUTHORIZATION**

**Beach erosion control activities pursuant to Section 103, Public Law 87-874 (preauthorization).**

Fiscal year costs were \$11,961 for East Cliff Drive, Santa Cruz, CA.; and \$44,709 for Cliff Drive, Capitola, CA.

### **Flood Control**

## **12. CORTE MADERA CREEK, CA**

**Location.** Creek and tributaries drain an area of 28 square miles in Marin County, CA, and flow into west side of San Francisco Bay about 9 miles north of Golden Gate.

**Existing Project.** Provided for about 11 miles of channel improvements, including realignment, enlargement, levees, riprap, rectangular concrete sections, interior drainage facilities, bridge relocations, and debris removal on Corte Madera Creek and lower reaches of its tributaries, and a continuous channel rights-of-way to deep water in San Francisco Bay reserved to assure channel outlet in the event of future tideland reclamation. Water Resources Development Act of 1986 modified existing project to direct construction of Unit 4 from Lagunitas Road Bridge to Sir Francis Drake Boulevard, and to include construction of flood proofing measures as necessary to individual properties and other necessary structural measures in vicinity of Lagunitas Road Bridge to insure proper functioning of completed portions of authorized project. Portion of project upstream of Sir Francis Drake Boulevard previously classified inactive was modified on November 17, 1986 to eliminate any channel modification. Current project has 3 miles of channel enlargement and levees, about 1.8 miles of rectangular concrete channel improvements, and 450,000 cubic yards of redredging on lower Corte Madera Creek.

**Local Cooperation.** Local interests must provide lands and rights-of-way, including suitable areas for disposal of waste material, modify or relocate all bridges and utilities necessary for construction and maintenance; hold and save the United States free from damages due to the construction works; maintain and operate the project after completion in accordance with the regulations prescribed by the Secretary of the Army, and prevent

encroachment on flood channels that would result in decreasing the effectiveness of project for flood control; adjust all claims regarding water rights that might be affected by the project; and contribute in cash 1.5 percent of Federal construction cost of Ross Valley units 1-4 and tidal areas. Marin County Flood Control and Water Conservation District previously furnished resolution of local assurances dated March 29, 1966, March 28, 1967, August 15, 1967, and July 8, 1969, and Marin County Board of Supervisors reaffirmed by letter dated September 28, 1978. Project was authorized by the State of California by 1965 Statute, Chapter 1388. Board of Supervisors of Marin County Flood Control and Water Conservation District furnished assurances of willingness and ability to meet requirements for portion of project below Sir Francis Drake Boulevard.

On December 13, 1983, Marin County Board of Supervisors reconfirmed assurances of local cooperation because a Superior Court judgment ordered that county to take all steps required by law to complete channel downstream of Sir Francis Drake Boulevard (Unit 4) and maintain entire project as agreed. A Local Cooperation Agreement for redredging the lower reach of Corte Madera Creek was executed on June 29, 1985. Marin County also provided support for Ross Valley Unit 4 by resolution on March 24, 1987 and by the resolution on September 13, 1988.

The General Reevaluation Report (GRR) was initiated in February 1999. As long as the originally authorized project remains the recommended project, the 1966 authorized cost sharing and financing requirements will be applicable. A community-based Design Advisory Committee has been created with representatives from Ross, Kentfield, Corte Madera, and Larkspur to provide community input on the conceptual plan. The conceptual plan is based on the Marin County Board of Supervisors' Design Guidelines for a consensus plan which was approved in 1996.

The GRR will be developed in two phases. Phase I will develop alternatives based on the design guidelines and determine if the project benefits exceed the costs. Phase II will complete the GRR and environmental documentation. Design and construction of Unit 4 and attendant features in the downstream units will be determined by the GRR. The communities of Corte Madera, Larkspur, Kentfield, and Ross reviewed the alternatives screening conference report summarizing Phase I during 2000, and began considering recommendations for locally prepared plan.

**Operations during fiscal year.** New Work: The flood control project has been built in separate units. The current project focuses on the design and construction of

unit 4 with modifications to units 2 and 3. Unit 4 includes a natural flood control channel and a sedimentation basin located at the town of Ross.

The non-Federal sponsor, Marin County Flood Control District 9, collected community resolutions passed in 2000 and 2001, and in April 2001 made a consolidated recommendation on the locally preferred plan. Work on GRR Phase II began based on that recommendation, with early activities to assure that the locally preferred plan can be implemented without damaging a historic bridge and without undue impact to traffic circulation, utilities and public safety. Phase II, which will complete the GRR and environmental documentation, is scheduled for completion in September 2003.

**Historical summary.** Project responsibility was transferred to Sacramento District on April 1, 1982 and back to the San Francisco District on October 1, 1996. Resolution 96-26 was passed on February 1, 1996 by the Marin County Board of Supervisors in support of a 40-year project.

Project is about 77 percent complete considering the portion being held in abeyance upstream of Sir Francis Drake Boulevard. Work remaining: Design construction of the remaining 3,000 feet of channel downstream of Sir Francis Drake Boulevard and Ross Creek. The portion of Corte Madera Creek upstream of intersection of Sir Francis Drake Boulevard and Corte Madera Creek in Ross, near the city of San Anselmo, was classified as "inactive" on July 11, 1984, due to lack of local support.

A Local Cooperation Agreement for redredging lower reach of Corte Madera Creek was executed June 29, 1985. Construction on Lower Corte Madera Creek Channel was completed and transferred to Marin County Flood Control and Water Conservation District by letter of May 28, 1987. San Francisco District monitors maintenance and operation of the project. The project was transferred from Sacramento District in October 1996. Design process began in the San Francisco District to complete Unit 4.

### **13. PETALUMA RIVER, PETALUMA, CA**

**Location.** The Petaluma River Basin is situated in the Sonoma and Marin Counties, California, on the northwestern shore of San Pablo Bay. The project site extends upstream approximately 500 feet from Lynch Creek to the spur line Railroad Bridge located approximately 600 feet downstream of the Lakeville Street Bridge.

**Existing project.** The project was re-authorized under

Section 112 of the Water Resources Development Act of 2000. The scope of the project consists of constructing the U-shaped channel, an earthen trapezoidal channel including the channel excavation and widening, the two hundred (200) feet concrete constriction weir, an approximately one – mile – long sheet pile flood / retaining wall along both sides of the main channel, two (2) storm drain pump stations, twelve (12) storm drain outlet structures in various locations of the channel, two (2) large mitigation areas including planting in the embankment slope throughout the project site, two hundred (200 ) feet long transition channel work, replacing two (2) vehicular bridges and two (2) railroad bridges, and demolishing the existing railroad wood trestle.

Present estimated cost of the project is \$33,400,000 of which \$21,700,000 is Federal cost and \$11,700,000 is non-Federal cost.

**Local cooperation.** The project was executed based on the original Petaluma River Project Cooperation Agreement in July 1996 under the continuing Authorities Program, Section 205 – Small Flood Control Projects. The project costs have exceeded the Continuing Authorities Program cost limits and was specifically authorized in WRDA 2000, Section 112. Further, Congressional direction in the House Report 106-693 accompanying the Energy and Water Development Appropriations Bill 2001 provides guidance to the Corps to utilize the available federal funds to continue project construction.

**Operations during fiscal year.** New work: The construction of Contract #1 for the U-shaped channel portion was completed in December 1998. The construction of the Payran Bridge and Lackville Bridge was completed under the local sponsor's contract in 1996 and 1998, respectively. The construction contract #2 for the trapezoidal channel was awarded in May 1999. The features of work in contract #2 completed in September 2000 included the floodwall/retaining wall in both sides of the channel, the channel widening and excavation, the constriction weir, the flood control features including the two (2) Storm Pump Stations and the storm drain outlets and the mitigation planting throughout the project site. Contract #2 was completed in May 2001. The remainder of the work to be completed including the correction of the mitigation areas in the Homlberg site to be included in Contract #3. The mainline Railroad Bridge, one of the two railroad bridges under construction by the local sponsor's contract, was completed early April 2001. Contract #3 for the Channel Transition is tentatively scheduled for completion in March 2002, Contract #4 for the mainline railroad approach, including the demolition of the existing railroad wood trestle in FY02, and Contract #5 for installing the

Industry track to replace the downstream and channel escalation in the transition channel areas. Maintenance: Operations and maintenance of Petaluma River Channel including engineering and design. No contract dredging scheduled in FY01.

## 14. RUSSIAN RIVER BASIN, CA

**Location.** Russian River rises in Coast Range in northwestern California, flows southerly for 87 miles, and then turns westerly to flow for 23 miles to Pacific Ocean at Jenner, 60 miles northwest of San Francisco, CA. (For general location see Geological Survey map for California.)

**Existing project.** Active authorized project provides for construction of a dam on East Fork of Russian River at Coyote Valley to a height of 160 feet; a dam on Dry Creek at Warm Springs to a height of 319 feet; and channel stabilization works on Russian River between mouth and mile 98, on lower reaches of several tributaries, and on Dry Creek downstream from dam. Project also provides for expansion of fish hatchery capacity at Dry Creek, Warm Springs, to compensate for fish losses on Russian River attributed to operation of Coyote Dam component of project. Coyote Valley Dam (Lake Mendocino), completed in 1959, and Warm Springs Dam (Lake Sonoma), completed in 1983, are operated and maintained by the United States. (See tables 34-I and 34-J for latest approved estimated costs.)

**Local cooperation.** Fully complied with for Coyote Valley Dam and channel improvements accomplished to date. For the Dry Creek portion, local interests are required by the authorizing act to comply with the usual a., b., c. requirements for channel improvements and, in addition, prevent any encroachment in the channel of Dry Creek which would interfere with proper functioning of the channel improvement works; adjust all claims concerning water rights arising from the construction and operation of the improvements, including acquisition of water rights needed for preservation of fish and wildlife resources affected by the project; and reimburse the United States in accordance with the Water Supply Act of 1958, as amended, for that part of the joint-use construction cost, (30.2 percent currently estimated at \$103,760,000) and an ultimate 32.5 percent of the annual operation, maintenance, and replacement joint-use costs allocated to municipal and industrial water supply. The estimated annual cost to local interests for maintenance of channel improvement works is \$80,000. Sonoma County Water Agency (formerly Sonoma County Flood Control and Water Conservation District) provided assurances of willingness and ability to meet requirements by Resolutions No. DR 00793-1, September 25, 1961, No. DR 4770-1, December 17, 1962 and No. DR

45759, August 5, 1974, for Dry Creek (Warm Springs) Lake and Channel. By letter dated March 7, 1967, Sonoma County Flood Control and Water Conservation District further indicated their interest in optimization of the Dry Creek (Warm Springs) damsite to provide additional water supply storage. Reimbursement to the United States for Dry Creek (Warm Springs) Lake and Channel costs allocated to 212,000 acre-feet of water supply storage is specified in a water supply contract with the local sponsor approved in October 1982. Local interests have expended approximately \$1,000,000 to provide partial flood protection in project area and have constructed facilities at an approximate cost of \$20,000,000 to distribute water from the completed Coyote Valley reservoir.

**Operations and results during fiscal year.** New work: Coyote Valley Dam: Major work includes replacing SST toilets with new vault toilets. Other work included modifying existing sewer system to reduce the number of confined space entry areas, wooden water tanks with steel at Kyen & Bushay campgrounds and Overlook day-use area; repaving roads at Overlook, Mendocino Drive Road, and Southboat Ramp Parking lot; and repairing the emergency slide gate in the control tower. Dry Creek (Warm Springs) Lake and Channel: Engineering activities continued. Major work includes repairing the Liberty Glen Campground Entrance Road using ERFO funds and the stabilization of the Control Tower Access Road. Maintenance: Coyote Valley Dam: Operation and maintenance continued. Structures were maintained in serviceable condition. Runoff of East Fork Russian River at Coyote Dam was normal for the year. Maximum storage of 92,268 acre-feet occurred on April 28, 2001. Maximum hourly inflow to reservoir was 6,501 cubic feet per second on March 4, 2001. Maximum release of 316 cubic feet per second occurred on September 6, 2001. During the year, 0 acre-feet were released for flood control, and 104,042 acre-feet was released for irrigation and other purposes. Dry Creek (Warm Springs) Lake and Channel: Operation and maintenance continued. Structures were maintained in serviceable condition. Runoff of Dry Creek at Warm Springs Dam was normal for the year. Maximum storage of 258,585 acre-feet occurred March 6, 2001. Maximum hourly inflow to reservoir was 8,736 cubic feet per second on March 4, 2001. Maximum release of 1,427 cubic feet per second occurred March 6, 2001. During the year, 73,788 acre-feet were released for irrigation and other purposes. Releases for flood control amounted to 29,493 acre-feet.

**Historical summary.** Entire project, exclusive of recreation facilities at completed project (Lake Mendocino), is about 99 percent complete. Coyote Valley Dam, initiated November 1958, was completed April 1959 (cost \$17,550,000, of which \$11,952,000 was Federal; and

\$5,598,000 contributed). Work, including removal of slides resulting from storms in 1958, was completed April 1959. Bank stabilization work on Russian River near Geyserville was completed in 1957 and channel improvements in remaining reaches on Russian River and East Fork of Russian River were completed in 1974 (cost \$2,483,900). In April 1982, responsibility was transferred to the Sacramento District. Responsibility for civil works operations & maintenance functions for the two projects was transferred back to San Francisco District October 1, 1996.

Warm Spring construction completion include fish hatchery in December 1980, project overlook in May 1981, reservoir clearing in July 1981, downstream stabilization sills in October 1981, dam closure in October 1982, spillway repair at Warm Springs Dam in September 1985, boat launching facilities, Phase I, in September 1985, Rockpile Road Upgrade, Yorty Creek Beach, and remedial work at Liberty Glen camping area in September 1990, fish hatchery expansion in September 1992, final control tower grouting, dam access road repair, spillway stabilization, fish hatchery emergency water supply in September 1993, and Liberty Glen wastewater system and contaminated soil remediation.

Initial filing of Warm Springs reservoir was commenced on November 1, 1984. Responsibility for construction was transferred to Sacramento District in August 1983. Dam safety assurance studies were initiated at Coyote Valley Dam in fiscal year 1984. Responsibility for civil works operations and maintenance functions for the two projects was transferred back to San Francisco District October 1, 1996.

## **15. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS**

Section 3, Flood Control Act of June 22, 1936, as amended and supplemented, included a requirement that local interests maintain and operate completed flood control works in accordance with regulations prescribed by the Secretary of War. Inspections made throughout the year to determine effectiveness of operation and maintenance by local interests of completed local protection projects and works constructed under emergency and special authorities of Sections 205 and 208 of the 1948 Flood Control Act, Section 14 of the 1946 Flood Control Act, and Public Law 99, 84th Congress. In addition, encroachments to Federal Projects such as new bridges, etc. must be reviewed and approved prior to construction by the local sponsor, as well as in compliance with the Clean Water Act permit and endangered species concerns regarding their operations and maintenance activities. Fiscal year cost was \$202,104. Total cost to September 30, 2001 was \$3,481,294. See Table 34-H for inspections made this fiscal year.

## **16. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION**

**Flood Control activities pursuant to Section 205, Public Law 858, 80th Congress, as amended (preauthorization).**

Fiscal year costs were \$2,713,185 for preauthorization studies of which (\$67,024) were for Petaluma River, Sonoma County, CA; \$2,350,832 for San Pedro Creek, Pacifica, CA; \$128,282 for White Slough, Solano County, CA; \$48,006 for Novato Creek Tributary, Novato, CA; \$191,598 for Coyote Creek at Rock Springs, CA; and \$7,642 for Section 205 Coordination Account; \$33,941 for Bay Front Canal, CA; and \$19,908 for Mare Island, CA.

**Emergency flood control activities-repair, flood fighting and rescue work (Public Law 99, 84th Congress, and antecedent legislation).**

Fiscal year cost incurred for emergency flood control activities were \$4,056,815 of which \$3,136,598 were for Disaster Preparedness; \$789,415 for Emergency Operations and \$130,802 for Rehabilitation.

**Emergency bank protection (Section 14, 1946 Flood Control Act, Public Law 526, 79th Congress).**

Fiscal year total costs were \$11,266 of which \$9,030 was for Indian Island, Humboldt County, CA; (\$2,242) was for Shelter Cove, Humboldt County, CA; and \$4,478 for Section 14 Coordination Account.

## **17. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS**

In accordance with sec. 7, Flood Control Act of 1944, summaries of monthly reservoir operations at Del Valle, CA were prepared. No water control manual revisions were completed due to environmental issues. Corps personnel provided advice as requested during flood control operations at the reservoir. Fiscal year cost was \$54,974.

## **18. MISCELLANEOUS WORK UNDER SPECIAL AUTHORIZATION**

**Project Modification for Improvement of Environment (Section 1135, PL 99-662).**

Fiscal year total costs were \$79,813 of which \$9,747 were for Coordination Account; and \$62,128 for Wildcat

Creek Restoration, CA.; \$6,802 for Alameda Creek, CA.; and \$1,136 for Preliminary Restoration Plan.

**Aquatic Ecosystem Restoration (Section 206, PL 104-303).**

Fiscal year total costs were \$109,721 of which \$5,879 was Coordination Account funds; \$86,487 for American Canyon Creek, CA; \$5,296 for Pavon Creek Restoration, CA.; \$5,363 for Novato Creek Antenna Field Restoration; and \$6,696 for Russian River Watershed Invasive Species.

## **Environmental Improvement**

## **19. HAMILTON AIRFIELD WETLANDS RESTORATION, CA**

**Location.** The Hamilton Wetland Restoration project is located at the former Hamilton Army Airfield south of the city of Novato, California.

**Existing project.** The project calls for restoration of approximately 1000 acres of habitat that includes coastal salt marsh, seasonal wetlands, tidal channels and intertidal habitats. The project will provide habitat for endangered species such as Chinook salmon, California clapper rail, brown pelican, California black rail and salt marsh harvest mouse. The wetlands will also support shorebirds and waterfowl migrating along the Pacific Flyway. The wetlands and associated habitats that will be restored are especially valuable due to the scarcity and declining amount of this habitat type in California and the dependence of listed threatened and endangered species on this unique resource.

More than 10 million cubic yards of dredged material is needed for the project. About 2.5 million cubic yards of material will come from the Port of Oakland's -50-foot harbor deepening project. The remaining eight million cubic yards of material will come, primarily, from other local and federal operation and maintenance projects around San Francisco Bay. Dredged material will be tested to ensure that it is suitable for wetlands construction.

Use of the material for wetlands restoration also avoids the necessity of disposing of it elsewhere in the bay or in the ocean, consequently wasting a resource that can be better used for habitat restoration. This concept is part of the Long Term Management Strategy for the disposal of material dredged from San Francisco Bay. This strategy was created in partnership with federal and state agencies, navigation interests, fishermen, environmental organizations and the general public in 1990, to develop long-term solutions and

policies for dredged material disposal that favor reuse. The project will be built using a phased approach that coincides with the availability of real estate parcels and dredged material. Initial geotechnical investigations to characterize soil properties began in late October 2001, as part of the Pre-construction Engineering and Design Phase of the project. In January, construction was completed on the first 1,700 feet of pipeline that will eventually stretch some 34,000 feet and carry the dredged material to various locations at the wetlands restoration site.

The next phase of the wetlands project will include removal of derelict buildings and preparation of the site to receive dredged material. The marsh-crossing pipeline will then be extended far into the deep water of San Pablo Bay where a hydraulic off-loader will be constructed. The off-loader will be used to pump dredged material, which will arrive on barges from bay dredging projects, to the restoration site. Internal berms and levees will be constructed on the airfield parcel to contain the slurried sediment. Once all the sediment has been placed on the site and the residual water drained from the site, the bayward levee will be breached and the waters of San Francisco Bay will be allowed once again to flow across the land.

The project cost is \$55,200,000 of which \$41,400,000 is Federal cost and \$13,800,000 is non-Federal cost (includes \$5,200,000 Port of Oakland costs).

The existing project was authorized in the Water Resources Development Act of 1999. Public Law 106-53 authorizes the Secretary of the Army to implement an ecosystem and wetland restoration project at the Hamilton Army Airfield and adjacent properties, City of Novato, Marin County, California.

**Local cooperation.** In accordance with the cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, the local sponsor must comply with the following requirements: (1) pay 25 percent of the total project cost and (2) provide all lands and easements, rights-of-way, and relocations necessary for the project. The value of lands, easements, rights-of-way, and relocations can be credited toward the payment required under item (1) above.

**Operations during fiscal year.** The Port of Oakland has completed initial construction of 1700 feet of the off loader pipeline, which will be extend another 30,000 feet onto the project site. Site preparation and construction of the off loader facility is expected to begin in September 2002 after the transfer of the Army BRAC parcel to the State of California has been completed. Project is expected to receive first dredge material in September of 2003.

## **General Investigations**

### **20. SURVEYS**

Fiscal year costs for surveys were \$2,481,668 of which \$379,553 were for navigation studies; \$284,906 for flood damage prevention; \$20,971 for shoreline protection studies; \$1,749,558 for special studies; \$36,299 for miscellaneous activities; and \$10,381 for coordination studies with other agencies.

### **21. COLLECTION AND STUDY OF BASIC DATA**

Fiscal year total costs of \$37,556 were incurred, of which \$25,954 was for Flood Plain Management Service Program and, \$11,602 for Hydrologic Studies.

### **22. PRECONSTRUCTION ENGINEERING AND DESIGN**

#### **LLAGAS CREEK, CA**

The project is located in southern Santa Clara County, California, in the vicinity of the communities of Morgan Hill, San Martin, and Gilroy. The project primarily consists of channel improvements and a diversion channel providing a 100-year level of flood protection to urban areas and 10-year protection to agricultural areas at a benefit-to-cost ratio of 1.1.

The Natural Resources Conservation Service (NRCS) has constructed about half of the authorized project, Reaches 1, 2, 3, part of 4, 9, 10, 11, 12 and 13. A supplemental environmental evaluation is currently being prepared by the NRCS to address Reaches 4, 5, 6, 7, 8 and 14. These reaches would complete work on the remainder of the project. The supplemental environmental evaluation will update biological surveys including potential existence of the endangered red-legged frog as well as Section 404 (Clean Water Act) jurisdictional determinations for wetlands.

The 1999 Water Resources Development Act (WRDA) authorized the Corps of Engineers to complete construction of this project essentially in accordance with the Llagas Creek Watershed plan prepared by the NRCSS (1986). This plan developed preliminary hydraulic designs fro the un-constructed reaches which are being updated with current hydrology and environmental consideration. A



Memorandum of Agreement between the Corps and the local sponsors, the Santa Clara Water District, and NRCS, for design and construction of the project is under review. Preparation and approval of a cost-shared Detailed Design Memorandum (DDM) will document the project design. Construction is forecasted to begin in the 2<sup>nd</sup> quarter of FY 04.

### **NOYO RIVER AND HARBOR, CA**

Noyo River rises in the Coast Range, flows westerly, and empties into Noyo Harbor. Noyo Harbor is a cove on the California Coast about 87 miles south of Humboldt Bay and 135 miles northwest of San Francisco. The 1962 Rivers and Harbors Act, modified by the 1976 Water Resources Development Act, authorized up to two breakwaters as necessary to provide protection. The 1976 Water Resources Development Act, as modified by the Water Resources Development Act of 1986, authorized construction of additional channel improvements. Recommended plans of improvement for the breakwater and channel improvement were previously considered as a single project. Due to significant differences in the time required for planning and construction, each part is now reported separately.

The plan of improvement for Noyo River and Harbor (Breakwater), CA provides for one detached offshore 400-foot breakwater aligned in a north-south direction along the southern portion of Noyo Cove, west of the entrance channel in Noyo Harbor. The plan also provides for a 60-foot wide channel, 7 feet deep, for a distance of about 3,000 feet upstream from the end of the existing Federal project to the Dolphin Isle Marina. The June 1995 draft GDM estimated the breakwater cost at \$23,312,000 of which \$18,712,000 is Federal cost and \$4,600,000 is non-Federal cost. Subsequent to the draft GDM, the Conference Report on H.R. 1905, Energy and Water Development Appropriation Act of 1996 directs the Corps to investigate the viability of a pre-fabricated steel structure in lieu of a rubble mound breakwater, including modeling. A special report, which documented this evaluation, was completed in January 1997. A meeting with the Local Sponsor, PG&E and the City of Fort Bragg was held 5 February 1997 to discuss the Corps' findings. Integrating wave power generation to the breakwater does not decrease the Sponsor's annualized cost because the Sponsor is required to pay all costs associated with power generation. Two letters from the Noyo Harbor District, dated 26 February 1997, requested the Corps finalize the GDM and discontinue study of integrating wave power generation into the breakwater. Due to sponsor's inability to fulfill its cost-sharing requirements, preparation of a final GDM was terminated.

This project has been put in an inactive category at the request of the sponsor.

### **PAJARO RIVER AT WATSONVILLE, CA**

The Pajaro River is the dividing line between Santa Cruz and Monterey County located approximately 100 miles south of San Francisco on Monterey Bay. Flooding in the city of Watsonville, the town of Pajaro, and surrounding agricultural lands prompted a re-examination of flood damage prevention in the Pajaro basin.

The project provides for modification of the existing levee system built by the Corps in 1949 and includes 2.5 miles of flood control levees and/or floodwalls on Salsipuedes Creek and Corralitos Creek, tributaries of the Pajaro River, as well as pump systems located outside of existing levees on the Pajaro River. The tributaries are located 6 miles from the river mouth. Since the only alternative with Federal interest was within the existing 1966 Rivers and Harbor Act construction authority, the reconnaissance study was certified in August 1994 with the recommendation to proceed directly to a General Re-evaluation Report (GRR) on raising levees along a portion of Corralitos and Salsipuedes Creeks. Flooding along the main stem of the Pajaro River in January and March 1995 caused in excess of \$65,000,000 in damages. Additional damages were incurred during the floods of January 1997 and February 1998. The main-stem was, therefore, incorporated into the ongoing GRR for the creeks. The non-Federal sponsors, the counties of Santa Cruz and Monterey, have attached a public consensus building process to develop locally preferred plan (LLP) which is acceptable to both agricultural and environmental interest. The Corps of Engineers supports this process by providing technical expertise and, when the process concludes, will incorporate the LPP as an alternative being evaluated in the GRR. Contingent in funding, the GRR would complete in FY 03. Plans and Specifications would follow with the situation of construction in early FY 05.

### **SAN RAFAEL CANAL, CA**

San Rafael Canal is located on the northwestern shoreline of San Francisco Bay in the city of San Rafael, about 17 miles north of the city of San Francisco. The Canal is surrounded by San Rafael's central business district and dense residential areas. The Study was authorized by a resolution adopted by the Committee on Public Works and Transportation of the United States House of Representatives on August 8, 1984, Section 142 of the Water Resources Development Act (WRDA) of 1976

(Public Law 94-587), as subsequently amended in Section 705 of WRDA of 1986 (Public Law 99-662). The project was authorized for construction in Section 101 of WRDA of 1996.

1999. PED is scheduled to complete by the end of November 2002.

The Feasibility Study recommended the South Floodwall Plan. This plan consists of approximately 9,500 linear feet of floodwall constructed along the south bank of the canal and 1,600 feet of sheet-pile floodwall along the crest of the Bayfront levee on the east side of the canal ways tract. The South Floodwall Plan has a benefit-to-cost ratio of 2.0 to 1. The estimated project cost is \$32,200,000 of which \$20,930,000 is Federal cost and \$11,270,000 is non-Federal cost. Preconstruction Engineering and Design was initiated in October 1992. The Corps is proposing a continuous floodwall design which is estimated to save between \$11.6 to \$14.1 million compared to the South Floodwall Plan, as recommended in the Feasibility Study. A letter was sent to the City of San Rafael in December 1996 requested Sponsor's agreement with the Corps proposal to finalize the project design based on the continuous flood wall concept. A District Engineer letter to the Mayor, City of San Rafael, dated 25 September 1997, informed the City that the project has been placed in a suspended status. The last Operation and Maintenance dredging was completed in FY 01. The FY 02 works is scheduled in July 2002.

### **UPPER GUADALUPE RIVER, CA**

The Upper Guadalupe River Feasibility Study area is located in the City of San Jose, Santa Clara County, California. The reach of the river proposed for improvement begins at interstate Highway 280 at the edge of downtown San Jose and extends south for about 5.5 miles.

The feasibility study evaluated a variety of non-structural and structural plans of improvement for flood protection in the Upper Guadalupe basin. The final feasibility study report and Environmental Impact Statement/Report was submitted to South Pacific Division on January 30, 1998. This report recommended Federal participation in a project providing a 50-year level of flood protection. The locally preferred plan, presently requiring additional sponsor (Santa Clara Valley Water District) funding, would provide a 100-year level of protection. The Division Engineer's Public Notice was issued on February 27, 1998 and a Chief of Engineer's Report was signed August 19, 1998. The project has been authorized for construction in the 1999 Water Resources Development Act.

The Design Agreement for the follow-on Preconstruction Engineering and Design (PED) phase was signed on February 25, 1999. PED was initiated in April

**SAN FRANCISCO, CA, DISTRICT**

**TABLE 34-A COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding      | FY 98     | FY 99     | FY 00     | FY 01       | Total Cost to<br>Sep. 30, 2001 |          |
|---------------------------|---|--------------|-----------|-----------|-----------|-------------|--------------------------------|----------|
|                           | Bodega Bay, CA  | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | -         | -           | 1,226,765                      | 1 2 40   |
|                           |   | Cost         | -         | -         | -         | -           | 1,226,765                      | 1 3 40   |
|                           |   | Maint.       |           |           |           |             |                                |          |
|                           |   | Approp.      | 5,423     | 47,441    | 95,044    | 248,803     | 1,618,053                      | 4 40     |
|                           |   | Cost         | 5,432     | 47,441    | 93,344    | 227,682     | 1,595,232                      | 4 40     |
|                           |   | Major rehab. |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | -         | -           | 397,779                        | 5        |
|                           |   | Cost         | -         | -         | -         | -           | 397,779                        | 5        |
| 12.                       | Corte Madera<br>Creek, CA<br>(Federal Funds)<br>(Contrib. Funds)    | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | 304,000   | 565,000   | 329,000   | 305,000     | 14,050,725                     | 62       |
|                           |   | Cost         | 232,311   | 595,772   | 348,755   | 317,721     | 13,998,079                     | 62       |
|                           |   | New Work     |           |           |           |             |                                |          |
|                           |   | Contrib.     | -         | -         | -         | -           | 190,355                        | 63       |
|                           |   | Cost         | -         | -         | -         | -           | 190,213                        | 63       |
|                           | (Contrib. Funds,<br>Other)  | New Work.    |           |           |           |             |                                |          |
|                           |   | Contrib.     | -         | -         | -         | -           | 804,761                        | 64       |
|                           |   | Cost         | -         | -         | -         | -           | 804,761                        | 64       |
| 1.                        | Crescent City<br>Harbor, CA   | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | 511,000   | 96,000    | 744,000   | (135,000)   | 11,289,972                     | 6 40     |
|                           |   | Cost         | 144,972   | 268,976   | 526,892   | 311,953     | 11,289,577                     | 6 40     |
|                           | (Contrib. Funds,<br>Other)  | New Work.    |           |           |           |             |                                |          |
|                           |   | Contrib.     | -         | -         | 249,290   | (27,073)    | 222,217                        |          |
|                           |   | Cost         | -         | -         | -         | 222,216     | 222,217                        |          |
|                           |   | Maint.       |           |           |           |             |                                |          |
|                           |   | Approp.      | 833,791   | 36,704    | 460,298   | 172,112     | 26,380,909                     | 7 40     |
|                           |   | Cost         | 644,254   | 226,230   | 242,621   | 371,311     | 26,362,420                     | 7 40     |
|                           |   | Major rehab. |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | -         | -           | 525,000                        | 8        |
|                           |   | Cost         | -         | -         | -         | -           | 525,000                        | 8        |
|                           | Fisherman's Wharf<br>Areas, San Francisco                           | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | -         | -           | 9,199,000                      | 41 48 50 |
|                           |   | Cost         | -         | -         | -         | -           | 9,199,000                      | 41 49 50 |
|                           |   | Maint.       |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | 11,882    | 3           | 400,373                        | 51       |
|                           |   | Cost         | -         | -         | 11,882    | 3           | 400,373                        | 51       |
| 19.                       | Hamilton Airfield<br>Wetland Restoration,<br>CA<br>(Contrib. Funds) | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | 75,000    | 538,000   | 2,176,000   | 2,789,000                      |          |
|                           |   | Cost         | -         | 66,993    | 467,633   | 1,072,184   | 1,606,810                      |          |
|                           |   | New Work.    |           |           |           |             |                                |          |
|                           |   | Contrib.     | -         | -         | 302,000   | 316,680     | 618,680                        |          |
|                           |   | Cost         | -         | -         | 202,608   | 118,705     | 321,313                        |          |
| 2.                        | Humboldt Harbor<br>and Bay, CA                                      | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | 40,000    | 6,799,000 | 1,056,000 | (1,284,298) | 19,518,001                     | 9 40     |
|                           |   | Cost         | 381,208   | 6,292,068 | 3,353,115 | (1,221,064) | 19,505,777                     | 9 40     |
|                           | (Contrib. Funds)  | New Work.    |           |           |           |             |                                |          |
|                           |   | Contrib.     | -         | 2,295,000 | 1,405,000 | -           | 3,700,000                      |          |
|                           |   | Cost         | -         | 1,899,999 | 691,087   | 610,111     | 3,201,197                      |          |
|                           |   | Maint.       |           |           |           |             |                                |          |
|                           |   | Approp.      | 2,398,890 | 3,933,480 | 3,956,700 | 3,509,772   | 96,352,549                     | 10 40    |
|                           |   | Cost         | 2,676,508 | 4,022,327 | 3,963,217 | 3,491,137   | 96,331,779                     | 10 40    |
|                           | Klamath River,<br>Klamath Glen<br>Levee, CA                         | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | (23,000)  | -         | -           | 558,000                        | 65       |
|                           |   | Cost         | (21,439)  | -         | -         | -           | 557,818                        | 65       |
|                           | Larkspur Ferry<br>Channel, CA                                       | Maint.       |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | 3,240,000 | (395,000)   | 2,845,000                      |          |
|                           |   | Cost         | -         | -         | 131,396   | 2,660,792   | 2,792,188                      |          |
|                           | Llagas Creek, CA  | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | 465,000   | 825,000     | 1,290,000                      |          |
|                           |   | Cost         | -         | -         | 203,610   | 1,002,001   | 1,205,611                      |          |
|                           | Moss Landing<br>Harbor, CA  | New Work     |           |           |           |             |                                |          |
|                           |   | Approp.      | -         | -         | -         | -           | 338,215                        | 11 40    |
|                           |   | Cost         | -         | -         | -         | -           | 338,215                        | 11 40    |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 34-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text          | Project                      | Funding      | FY 98      | FY 99     | FY 00      | FY 01     | Total Cost to<br>Sep. 30, 2001 |          |
|------------------------------------|------------------------------|--------------|------------|-----------|------------|-----------|--------------------------------|----------|
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 624,030    | 1,092,591 | 525,347    | 90,127    | 10,048,200                     | 12 40    |
|                                    |                              | Cost         | 91,269     | 1,305,020 | 548,684    | 82,299    | 10,031,256                     | 12 40    |
|                                    | Napa River, CA               | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | -         | -          | -         | 1,021,274                      | 13 40    |
|                                    |                              | Cost         | -          | -         | -          | -         | 1,021,274                      | 13 40    |
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 476,000    | 1,335,000 | 5,000      | (52,184)  | 7,712,579                      | 13 14 40 |
|                                    |                              | Cost         | 280,615    | 1,627,680 | 53,423     | (52,809)  | 7,706,092                      | 13 14 40 |
|                                    | Noyo River and<br>Harbor, CA | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | (24,000)   | -         | -          | (400)     | 4,120,600                      | 15 16 40 |
|                                    |                              | Cost         | 8,564      | -         | -          | -         | 4,120,596                      | 15 17 40 |
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | 78,899    | 857,713    | 126,608   | 10,404,456                     | 18 19 40 |
|                                    |                              | Cost         | 69,423     | 79,968    | 462,231    | 522,087   | 10,404,453                     | 18 19 40 |
|                                    |                              | Minor rehab. |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | -         | -          | -         | 222,810                        | 20 40    |
|                                    |                              | Cost         | -          | -         | -          | -         | 222,810                        | 20 40    |
| 3. Oakland Harbor,<br>CA           |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 26,131,000 | -         | (100,000)  | (131,000) | 93,171,684                     | 21       |
|                                    |                              | Cost         | 26,025,231 | 634,964   | 186,363    | (189,288) | 93,076,952                     | 21       |
| (Federal Funds)                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 3,877,727  | 3,287,279 | 10,310,940 | 4,793,792 | 71,855,306                     | 22       |
|                                    |                              | Cost         | 3,458,835  | 3,700,050 | 10,410,524 | 4,726,744 | 71,788,222                     | 22       |
| (Contrib. Funds)                   |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Contrib.     | 6,251,679  | -         | -          | -         | 23,446,184                     |          |
|                                    |                              | Cost         | 7,394,785  | 333,846   | -          | 2,379     | 22,436,143                     |          |
| Oakland Harbor<br>50', CA          |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | 752,000   | 2,438,000  | 1,737,000 | 4,927,000                      |          |
|                                    |                              | Cost         | -          | 651,580   | 2,427,815  | 1,711,369 | 4,790,764                      |          |
| (Federal Funds)                    |                              | New Work     |            |           |            |           |                                |          |
| (Contrib. Funds)                   |                              | Contrib.     | -          | 824,340   | 365,189    | 6,100,000 | 7,289,529                      |          |
|                                    |                              | Cost         | -          | 458,735   | 627,415    | 99,129    | 1,185,279                      |          |
| Pajaro River at<br>Watsonville, CA |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 408,000    | 141,000   | 615,000    | 840,000   | 3,541,100                      |          |
|                                    |                              | Cost         | 380,036    | 197,039   | 507,590    | 832,166   | 3,420,845                      |          |
| 13. Petaluma River, CA             |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 800,000    | 1,286,166 | -          | 2,990,000 | 8,202,082                      | 23 40    |
|                                    |                              | Cost         | 1,012,935  | 1,787,369 | 11,895     | 689,582   | 5,898,512                      | 66 40    |
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 1,852,000  | (296,000) | 175,966    | 88,663    | 16,944,167                     | 24 40    |
|                                    |                              | Cost         | 756,114    | 799,886   | 174,413    | 90,215    | 16,944,166                     | 24 40    |
| (Contributed Funds)                |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Contrib.     | 759,000    | 4,000,000 | 4,535,000  | -         | 10,654,300                     |          |
|                                    |                              | Cost         | 1,178,338  | 2,142,728 | 4,843,203  | 1,856,425 | 10,621,491                     |          |
| Pillar Point<br>Harbor, CA         |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | -         | -          | -         | 6,697,396                      | 43 44    |
|                                    |                              | Cost         | -          | -         | -          | -         | 6,697,396                      | 43 44    |
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 38,626     | 4,745     | 41,004     | 5,737     | 2,399,871                      | 44 45    |
|                                    |                              | Cost         | 38,626     | 4,745     | 41,004     | 5,737     | 2,399,871                      | 44 45    |
| Redwood City<br>Harbor, CA         |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | -         | -          | -         | 1,672,722                      | 25 40    |
|                                    |                              | Cost         | -          | -         | -          | -         | 1,672,722                      | 25 40    |
|                                    |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 638,075    | 2,474,538 | 130,108    | 92,508    | 22,170,026                     | 26 40    |
|                                    |                              | Cost         | 243,519    | 2,919,092 | 129,394    | 843,957   | 22,120,759                     | 26 40    |
| Removal of<br>Sunken Vessels       |                              | Maint.       |            |           |            |           |                                |          |
|                                    |                              | Approp.      | -          | -         | -          | -         | 283,068                        |          |
|                                    |                              | Cost         | -          | -         | -          | -         | 283,068                        |          |
| 4. Richmond Harbor,<br>CA          |                              | New Work     |            |           |            |           |                                |          |
|                                    |                              | Approp.      | 17,809,000 | (877,000) | (150,000)  | 269,183   | 30,429,610                     | 27 28    |
|                                    |                              | Cost         | 16,156,205 | 619,718   | 369,847    | 294,415   | 30,427,410                     | 27 28    |
| (Federal Funds)                    |                              |              |            |           |            |           |                                |          |

**SAN FRANCISCO, CA, DISTRICT**

**TABLE 34-A (Cont'd)**

**COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding      | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost to<br>Sep. 30, 2001 |          |
|---------------------------|---|--------------|-----------|-----------|-----------|-----------|--------------------------------|----------|
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 6,515,445 | 2,947,219 | 2,557,179 | 5,124,901 | 58,315,199                     | 29 40    |
|                           |   | Cost         | 6,491,813 | 2,991,913 | 2,563,937 | 5,067,960 | 58,253,672                     | 29 40    |
|                           |   | Minor rehab. |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | 164,689                        |          |
|                           |   | Cost         | -         | -         | -         | -         | 164,689                        |          |
|                           | (Contributed Funds)   | New Work     |           |           |           |           |                                |          |
|                           |   | Contrib.     | 4,487,200 | (5,000)   | 5,000     | (567,604) | 7,356,596                      |          |
|                           |   | Cost         | 6,681,933 | 20,523    | -         | (379,589) | 7,356,596                      |          |
| 14.                       | Russian River Basin,<br>CA, Coyote Valley<br>Dam (Lake<br>Mendocino) and<br>Channel Improve-<br>ments (Fed Funds)<br>(Contrib. Funds,<br>Other) | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | 14,435,869                     | 54       |
|                           |   | Cost         | -         | -         | -         | -         | 14,435,869                     | 54       |
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 2,869,000 | 3,023,000 | 3,761,000 | 3,139,682 | 60,656,584                     | 55       |
|                           |   | Cost         | 2,766,987 | 3,040,923 | 4,071,397 | 3,096,632 | 60,566,017                     | 55       |
|                           |   | New Work     |           |           |           |           |                                |          |
|                           |   | Contrib.     | -         | -         | -         | -         | 589,911                        | 56       |
|                           |   | Cost         | -         | -         | -         | -         | 570,774                        | 57       |
|                           | Dry Creek (Warm<br>Springs) Lake<br>and Channel<br>Improvements, CA<br>(Federal Funds)  | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | 333,108,645                    | 58       |
|                           |   | Cost         | -         | -         | -         | -         | 333,081,773                    | 58       |
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 5,508,000 | 4,133,000 | 4,144,000 | 4,840,921 | 56,116,855                     | 59       |
|                           |   | Cost         | 5,069,869 | 4,923,360 | 4,159,938 | 4,811,131 | 54,731,111                     | 59       |
|                           | (Contrib. Funds,<br>Other)  | New Work     |           |           |           |           |                                |          |
|                           |   | Contrib.     | -         | -         | -         | -         | 230,574                        | 60 62    |
|                           |   | Cost         | -         | -         | -         | -         | 228,732                        | 61 63    |
|                           | San Clemente<br>Creek, CA   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | (198,000) | -         | -         | -         | -                              |          |
|                           |   | Cost         | -         | -         | -         | -         | -                              |          |
| 5.                        | San Francisco Bay<br>to Stockton, CA<br>(John F. Baldwin<br>and Stockton Ship<br>Channels)<br>(Contributed Funds)                               | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | 320,000   | -         | -         | (25,000)  | 38,812,200                     | 42       |
|                           |   | Cost         | 310,637   | 124,167   | (37,422)  | (26,302)  | 38,804,639                     | 42       |
|                           |   | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | 88,316    | (5,000)   | -         | -         | 88,316                         |          |
|                           |   | Cost         | 3,397     | -         | -         | -         | 3,937                          |          |
| 7.                        | San Francisco Bay<br>and Delta Model,<br>CA   | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | -                              |          |
|                           |   | Cost         | -         | -         | -         | -         | -                              |          |
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 1,805,000 | 2,042,000 | 2,254,300 | 1,847,878 | 39,081,095                     |          |
|                           |   | Cost         | 1,896,557 | 2,073,435 | 2,228,816 | 1,880,785 | 38,882,159                     |          |
| 8.                        | San Francisco Bay<br>Long Term<br>Management<br>Strategy (LTMS), CA   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 40,000    | -         | -         | 192,570   | 12,143,570                     |          |
|                           |   | Cost         | 29,048    | 214,766   | -         | 192,139   | 12,143,139                     |          |
|                           | San Francisco<br>Harbor, CA   | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | 2,689,356                      | 28 30 40 |
|                           |   | Cost         | -         | -         | -         | -         | 2,689,356                      | 28 30 40 |
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 1,109,542 | 1,056,480 | 1,892,650 | 879,467   | 44,396,796                     | 31 40    |
|                           |   | Cost         | 1,090,286 | 1,080,511 | 1,893,895 | 879,090   | 44,396,403                     | 31 40    |
|                           | San Francisco<br>Harbor and Bay, CA<br>(Removal of Drift)   | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | -                              |          |
|                           |   | Cost         | -         | -         | -         | -         | -                              |          |
|                           |   | Maint.       |           |           |           |           |                                |          |
|                           |   | Approp.      | 2,067,000 | 1,498,000 | 2,039,700 | 1,925,699 | 47,393,979                     | 40       |
|                           |   | Cost         | 1,616,890 | 1,661,854 | 2,351,227 | 1,964,551 | 47,377,234                     | 40       |
|                           | San Leandro<br>Marina, CA   | New Work     |           |           |           |           |                                |          |
|                           |   | Approp.      | -         | -         | -         | -         | -                              |          |
|                           |   | Cost         | -         | -         | -         | -         | -                              |          |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 34-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding  | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost to<br>Sep. 30, 2001 |          |
|---------------------------|---|----------|-----------|-----------|-----------|-----------|--------------------------------|----------|
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | 78,000    | -         | -         | 1,999,774 | 6,659,213                      | 32       |
|                           |   | Cost     | 136,106   | 22,316    | -         | 1,999,726 | 6,659,165                      | 32       |
|                           | San Pablo Bay<br>and Mare Island<br>Strait, CA                  | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | -         | -         | -         | -         | 1,369,372                      | 28 33 40 |
|                           |   | Cost     | -         | -         | -         | -         | 1,369,372                      | 28 33 40 |
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | 439,378   | 2,602,504 | 67,280    | 1,155,139 | 48,511,810                     | 34 40    |
|                           |   | Cost     | 438,621   | 2,616,786 | 67,282    | 1,155,139 | 48,511,810                     | 34 40    |
|                           | San Rafael<br>Canal, CA   | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | (1,000)   | (2,000)   | (800)     | -         | 2,179,200                      |          |
|                           |   | Cost     | -         | -         | -         | -         | 2,179,197                      |          |
|                           | San Rafael<br>Creek, CA   | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | -         | -         | -         | -         | 32,359                         | 40 47    |
|                           |   | Cost     | -         | -         | -         | -         | 32,359                         | 40 47    |
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | 476,413   | 100,778   | 48,694    | 37,275    | 6,923,011                      | 40 46    |
|                           |   | Cost     | 535,858   | 163,428   | 46,619    | 35,350    | 6,923,011                      | 40 46    |
|                           | Santa Cruz<br>Harbor, CA<br>(Federal Funds)<br>(Contrib. Funds) | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | -         | -         | -         | -         | 4,126,808                      | 52       |
|                           |   | Cost     | -         | -         | -         | -         | 4,126,808                      | 52       |
|                           |   | New Work |           |           |           |           |                                |          |
|                           |   | Contrib. | -         | -         | -         | -         | 160,000                        | 35       |
|                           |   | Cost     | -         | -         | -         | -         | 160,000                        | 35       |
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | 33,205    | 65,563    | 29,419    | 65,041    | 9,926,677                      | 40 53    |
|                           |   | Cost     | 33,205    | 65,563    | 29,419    | 60,900    | 9,922,536                      | 40 53    |
| 6.                        | Sonoma Baylands<br>Wetlands Demo<br>Project, CA                 | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | 720,000   | -         | -         | -         | 6,320,100                      |          |
|                           |   | Cost     | 707,798   | 69,876    | -         | -         | 6,312,064                      |          |
|                           | (Contrib. Funds)  | New Work |           |           |           |           |                                |          |
|                           |   | Contrib. | 75,000    | 97,560    | 5,000     | -         | 906,560                        |          |
|                           |   | Cost     | 8,567     | 70,908    | -         | -         | 796,980                        |          |
|                           | Suisun Bay<br>Channel, CA                                       | New Work |           |           |           |           |                                |          |
|                           | Approp.   | Approp.  | -         | -         | -         | -         | 200,928                        | 36       |
|                           |   | Cost     | -         | -         | -         | -         | 200,928                        | 36       |
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | 3,299,252 | 1,664,500 | 2,640,365 | 1,945,116 | 18,615,977                     | 37       |
|                           |   | Cost     | 3,142,611 | 1,832,423 | 2,653,929 | 1,926,198 | 18,597,021                     | 37       |
|                           | Suisun Channel, CA  | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | -         | -         | -         | -         | 217,677                        | 38       |
|                           |   | Cost     | -         | -         | -         | -         | 217,677                        | 38       |
|                           |   | Maint.   |           |           |           |           |                                |          |
|                           |   | Approp.  | -         | 100,217   | 11,231    | -         | 3,002,462                      | 39       |
|                           |   | Cost     | -         | 100,217   | 11,231    | -         | 3,002,462                      | 39       |
|                           | Upper Guadalupe<br>River, CA                                    | New Work |           |           |           |           |                                |          |
|                           |   | Approp.  | 50,000    | 233,000   | 1,008,000 | 397,000   | 1,688,000                      |          |
|                           |   | Cost     | 4,185     | 261,202   | 1,019,028 | 322,314   | 1,606,729                      |          |
|                           | (Contrib. Funds)  | New Work |           |           |           |           |                                |          |
|                           |   | Contrib. | -         | 385,000   | 1,320,000 | 1,320,000 | 3,025,000                      |          |
|                           |   | Cost     | -         | 284,088   | 101,902   | 674,745   | 1,060,735                      |          |

1. Includes \$641,800 for jetties, bulkheads, main Bodega Bay Channel and turning basin completed in 1943.

2. Includes \$585,000 for Preconstruction Planning (\$456,000 Construction, General funds and \$129,000 General Investigation funds).

3. Includes \$585,000 Preconstruction Planning costs (\$456,000 Construction General costs and \$129,000 General Investigation costs).

4. Includes \$893,440 for reconnaissance and condition surveys, FY 1956-2001. Excludes contributed funds of \$385,134.

5. Excludes contribution funds of \$2,000.

6. Excludes contributed funds of \$271,116 and \$2,138 surplus material from Corps military activities.

7. Excludes contributed funds of \$44,340. Includes \$854,779 for reconnaissance and condition surveys, FY 1956-2001.

8. Excludes \$2,000 contributed funds in lieu of royalty-free rock.

9. Includes \$2,261,371 for previous project. Excludes \$95,000 contributed funds for existing project.

10. Includes \$98,206 for previous project and \$26,457 for reconnaissance and condition surveys, FY 1956-2001.

11. Excludes \$5,337 previous project costs.

## SAN FRANCISCO, CA, DISTRICT

12. Excludes \$8,539 surplus material from Corps' military activities. Includes \$317,586 for reconnaissance and condition surveys, FY 1956-2001. Excludes contributed funds of \$290,653.
13. Excludes previous project costs.
14. Includes \$943,503 for reconnaissance and condition surveys, FY 1956-2001. Excludes \$496,307 contributed funds.
15. Includes \$11,985 for previous project. Excludes \$7,180 contributed funds for previous project.
16. Includes \$4,120,600 for Pre-construction Planning (\$3,540,600 for Breakwater of which \$500,000 allocated under Construction, General and \$3,040,600 under General Investigations); (\$580,000 for Channel Extension of which \$165,000 allocated under Construction, General and \$415,000 under General Investigations).
17. Includes \$4,120,596 Preconstruction cost (\$3,540,596 for Breakwater of which \$500,000 was under Construction, General and \$3,040,596 under General Investigations); (\$580,000 for Channel Extension of which \$165,000 was under Construction, General and \$415,000 under General Investigations).
18. Includes \$37,810 for previous project and \$258,887 for reconnaissance and condition surveys, FY 1956-2001. Excludes contributed funds of \$820 for previous project.
19. Excludes contributed funds of \$4,000 in lieu of providing dike disposal areas on existing project.
20. Excludes contributed funds of \$1,700.
21. Includes \$2,899,232 for previous projects. Excludes \$397,266 contributed funds on previous projects.
22. Includes \$684,028 for previous projects and \$175,883 for reconnaissance and condition surveys, FY 1956-2001. Excludes contributed funds of \$45,853.
23. Includes \$212,083 for previous project and \$4,929,999 under Section 205 and \$3,060,000 under Construction, General. Excludes contributed funds of \$15,559 for previous project.
24. Includes \$314,692 for previous project and \$625,653 for reconnaissance and condition surveys, FY 1956-2001. Excludes contributed funds of \$192,424.
25. Includes previous project costs \$31,443. Excludes \$119,572 contributed funds for existing project.
26. Includes \$924,372 for reconnaissance and condition surveys, FY 1956-2001.
27. Excludes contributed funds of \$524,778. Includes \$105,000 Public Works Administration funds.
28. Excludes modification authorized October 27, 1965, under project "San Francisco Bay to Stockton, CA (John F. Baldwin and Stockton Ship Channels)."
29. Excludes \$115,536 contributed funds. Includes \$335,142 for reconnaissance and condition surveys, FY 1956-2001.
30. Includes \$1,030,399 for previous projects. Excludes \$134,591 contributed funds for existing project. Includes \$193,000 Public Works Administration funds.
31. Includes \$475,321 for previous projects and \$813,611 for reconnaissance and condition surveys, FY 1956-2001.
32. Authorized by FC Act of 1965 (Sec. 201); Maintenance R&H Act of 1970 (Sec. 103). Includes \$321,488 for reconnaissance and condition surveys FY 1979-2001. See FY 1977 Annual Report for last full report. Excludes contributed funds of \$885,712.
33. Includes \$1,086,703 for previous projects.
34. Includes \$1,359,380 for previous projects and \$275,655 for reconnaissance and condition surveys, FY 1956-2001.
35. Excludes \$810,046 contributed funds on previous project.
36. See Sacramento District FY 1974 Annual Report for detail.
37. Project maintenance responsibility to Point Edith was transferred to San Francisco District January 1, 1974. Excludes Sacramento District's portion. Includes \$85,554 for reconnaissance and project condition surveys, FY 1976-2001.
38. Project maintenance assigned to San Francisco District from Sacramento District January 1, 1974. See Sacramento District 1972 Annual Report for full report.
39. Includes \$746,637 for reconnaissance and condition surveys, FY 1978-2001. Includes \$727,510 for previous project. Excludes \$121,386 contributed funds.
40. See FY 1981 Annual Report for last full report.
41. Excludes Contributed Funds of \$709,624.
42. See Sacramento District FY 1985 Annual Report for full report.
43. Excludes \$100,000 contributed funds and \$105,000 contributed in lieu of royalty-free rock.
44. See FY 1979 Annual Report for last full report.
45. Includes \$246,071 for reconnaissance and condition surveys, FY 1970-2001.
46. Includes \$583,190 for reconnaissance and condition surveys, FY 1970-2001. Excludes \$93,500 contributed funds.
47. Excludes \$41,094 contributed funds.
48. Includes \$9,199,000 funds of which \$8,499,000 was under Construction, General and \$700,000 under General Investigations.
49. Includes \$9,199,000 costs of which \$8,499,000 was under Construction, General and \$700,000 under General Investigations.
50. See FY 1987 Annual Report for last full report.
51. Includes \$77,343 for reconnaissance and condition surveys, FY 1989-2001.
52. See FY 1988 Annual Report for last full report.
53. Includes \$224,335 for reconnaissance and condition surveys, FY 1993-2001.
54. Excludes \$5,598,000 contributed funds: \$400,000 for recreation facilities at completed projects funded under Public Works Acceleration Program; and \$1,628,411 for recreation facilities at completed projects funded under Code 711 at Coyote Valley Dam, Lake Mendocino.
55. Includes \$94,459 special recreation use fees and costs (FY 1982-1983), but excludes prior special recreation fees and cost for Coyote Valley Dam, Lake Mendocino.
56. Includes \$251,911 contributed funds, other from City of Ukiah for Coyote Valley Dam, Lake Mendocino, hydropower studies; and \$338,000 from California Department of Boating and Waterways for launching facility at Lake Mendocino.
57. Includes \$250,117 contributed funds, other costs for Coyote Valley Dam, Lake Mendocino, hydropower studies; and \$320,657 for California Department of Boating and Waterways for launching facility at Lake Mendocino.
58. Includes \$253,421,793 previous San Francisco construction funds and costs through August 1983 for Dry Creek, Warm Springs Dam.
59. Includes \$964,114 previous San Francisco maintenance funds and costs through April 1982 for Dry Creek, Warm Springs Dam.

## **REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

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60. Includes \$208,074 contributed funds, other, from Sonoma County for Dry Creek, Warm Springs, hydropower studies; and \$22,500 from City of Ukiah for hatchery pump design at Lake Mendocino.

61. Includes \$208,074 contributed funds, other, costs for Dry Creek, Warm Springs hydropower studies; and \$20,658 costs for hatchery pump design.

62. Includes \$7,303,725 San Francisco District construction funds and costs for Corte Madera Creek.

63. \$8,695 contributed funds transferred to Sacramento District in FY 1983. Includes \$97,400 San Francisco District required contributed funds and costs.

64. Contributed funds, other, and costs, from Marin County including \$536,921 for miscellaneous bridge and road relocations and \$267,840 for additional expenses for disposal sites at Corte Madera Creek.

65. See FY 1998 Annual Report for last full report.

66. Includes \$212,083 for previous project and \$4,929,823 under Section 205 and \$756,606 under Construction, General.



# SAN FRANCISCO, CA, DISTRICT

TABLE 34-B

## AUTHORIZING LEGISLATION

| See Section in Text | Date of Authorizing Act | Project and Work Authorized   | Documents  |
|---------------------|-------------------------|---|--|
| 1.                  |                         | <b>CRESCENT CITY HARBOR, CA</b>   |  |
|                     | Jul. 18, 1918           | A breakwater bearing S. 26-1/4 E. from Battery Point to Fauntleroy Rock and breakwater from the shore to Whaler Island.   | H. Doc. 434, 64th Cong., 1st sess.   |
|                     | Sep. 22, 1922           | Modified condition of local cooperation which required that local interests construct a railroad from Grants Pass, Oregon to Crescent City so that a State Highway to Grants Pass would be an acceptable alternate. | Rivers & Harbors Committee Doc. 4, 67th Congress, 2nd sess.  |
|                     | Jan. 21, 1927           | Extension of the breakwater to a length of 3,000 feet and a reduced cash contribution required of local interests.  | H. Doc. 595, 69th Cong., 2nd sess.   |
|                     | Aug. 30, 1935           | Maintaining by dredging of an outer harbor basin, 1,800 feet long, 1,400 feet wide and 20 feet deep, except in rock.  | Rivers & Harbors Committee Doc. 40, 74th Cong.   |
|                     | Aug. 26, 1937           | Construction of a sand barrier from Whaler Island to the mainland and for maintenance dredging in the vicinity of the seaward end of the sand barrier.  | Senate Committee Print, 75th Cong., 1st sess.  |
|                     | Mar. 2, 1945            | Extension of existing breakwater 2,700 feet to Round Rock (modified by Chief of Engineers, 1952).   | H. Doc. 688, 76th Cong., 3rd sess.   |
|                     | Mar. 2, 1945            | Construction of inner breakwater and removal of pinnacle rock and other material from the harbor to a depth of 12 feet and a harbor basin with a project depth of 10 feet.  | Report on file in office, Chief of Engineers.  |
|                     | Oct. 27, 1965           | Extension of inner breakwater and dredging of T-shaped harbor basin to depth of 20 feet.  | H. Doc. 264, 89th Cong., 1st sess.   |
| 2.                  |                         | <b>HUMBOLDT HARBOR, CA</b>  |  |
|                     | Mar. 3, 1881            | Channel 10 feet deep by 350 feet wide to be dredged along Eureka waterfront, thence 8 feet deep by 200 feet wide west to natural channel; dredging Mad River Shoal to 8 feet deep.                                  | H. Doc. 59 Cong., 3rd sess.  |
|                     | Jul. 5, 1884            | Construct South Jetty and continue channel improvements.  | River & Harbor Approp Act of 1884  |
|                     | Aug. 5, 1886            | \$75,000 continued improvement of Harbor with provision for title to 12 acres of land to be conveyed to the U.S.  | River & Harbor Approp Act of 1886  |
|                     | Jul. 3, 1892            | Map and cost estimates for continuing Harbor improvements with provision for two parallel jetties.  | Chief of Engrs Annual Report (p.3120) Annual River & Harbor, Approp Acts 1892-1899                               |
|                     | Mar. 3, 1899            | Continuing Harbor improvements with provision for two parallel jetties.   | H. Doc. 528, 55th Cong., 2nd sess.   |
|                     | Jun. 25, 1910           | Rebuilding the jetties and channel improvements to Arcata and Hookton.  | H. Doc. 950, 60th Cong., 1st sess.,<br>H. Doc. 204, 61st Cong., 2nd sess.,<br>H. Doc. 326, 61st Cong., 2nd sess. |
|                     | Jul. 3, 1930            | Eureka Channel 20 feet deep and 300 feet wide; Samoa Channel 20 feet deep and 250 feet wide; Arcata Channel 18 feet deep and 150 feet wide; Fields Landing Channel 20 feet deep and 250 feet wide.                  | H. Doc. 755, 69th Cong., 2nd sess.   |
|                     | Aug. 30, 1935           | Entrance Channel 30 feet deep and 500 feet wide.  | Rivers and Harbors Committee Doc. 14 74th Cong., 1st sess  |
|                     | Aug. 26, 1937           | Eureka Channel 26 feet deep and 400 feet wide; Samoa Channel 26 feet deep and 300 feet wide;  | Rivers & Harbors Committee, Doc.   |

**TABLE 34-B (Cont'd)**

**AUTHORIZING LEGISLATION**

| See<br>Section<br>in Text        | Date of<br>Authorizing<br>Act | Project and Work Authorized   | Documents   |
|----------------------------------|-------------------------------|---|---|
|                                  |                               | Fields Landing Channel 26 feet deep and 300 feet wide; Turning Basin (off Fields Landing wharf) channel 26 feet deep, 600 feet wide and 800 feet long.  | 11, 75th Cong., 1st sess.                                   |
| Jul. 16, 1952                    |                               | Bar & Entrance Channel 40 feet deep, tapered from 1,600 feet to 500 feet wide; North Bay Channel 30 feet deep and 400 feet wide; Eureka Channel 30 feet deep to mile 5.0; Samoa Channel 30 feet deep.   | Rivers & Harbors Committee, Doc. 143, 82nd Cong., 1st sess. |
| August 1968                      |                               | North Bay Channel 35 feet deep; Samoa Channel 35 feet deep; widen turns at mile 0.75 and 2.6; provide a 1,200 by 1,200 foot anchorage in North Bay.   | H. Doc. 330, 90th Cong., 2nd sess.                          |
| Oct. 12, 1996                    |                               | Bar and Entrance Channel 48 feet deep; North Bay Channel, Samoa Channel and Samoa Turning Basin 38 feet deep; widen the north side of the Entrance Channel an additional 200 to 275 feet; relocate the southern edge of the Entrance Channel away from the South Jetty and to the north by 100 feet; and widen and realign the entrance to the Samoa Turning Basin. | Section 10, Public Law 104-303, 1996 WRDA                   |
| <br><b>3. OAKLAND HARBOR, CA</b> |                               |   |   |
|                                  | June 23, 1874                 | Jetties.  | Annual Report, Part II, 1874, P. 378.                       |
|                                  | June 25, 1910                 | North channel in Brooklyn Basin, 25 feet deep, and tidal canal to 18 feet.  | H. Doc. 647, 61st Cong., 2d sess.                           |
|                                  | Sep. 22, 1922                 | Channel across shoal southeast of Yerba Buena Island and thence to Webster St.; South channel in Brooklyn Basin; Turning Basin at east end of Brooklyn Basin; and channel in Tidal Canal from Brooklyn Basin to Park St., 30 feet deep.   | H. Doc. 144, 67th Cong., 2d sess.                           |
|                                  | Jan. 21, 1927 <sup>2</sup>    | Channel from Webster St. to Brooklyn Basin, maintain area to within 75 feet of pierhead line south of channel from Harrison St. to Harbor Line Point 119 in Brooklyn Basin; dredge a triangular strip about 2,700 feet long and maximum width of 300 feet at western end of Brooklyn Basin, 30 feet deep.   | H. Doc. 407, 69th Cong., 1st sess. <sup>1</sup>             |
|                                  | Apr. 28, 1928                 | Local cooperation requirements modified to provide alteration or replacement of bridges by local interests shall apply only to that feature of project covering deepening tidal canal to 25 feet. Drawbridges across Tidal Canal were required by 1882 Decree of Court in condemnation proceedings whereby title was obtained to right-of-way for tidal canal.      | Public Res. 28, 70th Cong.                                  |
|                                  | July 3, 1930                  | Entrance channel to outer harbor, 800 to 600 feet wide.   | Rivers and Harbors Committee Doc. 43, 71st Cong., 2nd sess. |
|                                  | Mar. 2, 1945                  | Eliminated requirement that local interests contribute 10 cents per cubic yard toward deepening tidal canal.  | Doc. 466, 77d Cong., 1st sess.                              |
|                                  | Mar. 2, 1945                  | Maintenance of 35-foot depth in channel to outer harbor and in outer harbor channel and turning basin.  | Report on File in Office, Chief of Engineers                |
|                                  | Oct. 23, 1962 <sup>3</sup>    | Deepen inner harbor 35-foot channels and lower 1,300 feet of north channel in Brooklyn Basin to 35 feet.  | H. Doc. 353, 87th Cong., 2d sess. <sup>1</sup>              |

**SAN FRANCISCO, CA, DISTRICT**

**TABLE 34-B (Cont'd)**

**AUTHORIZING LEGISLATION**

| See<br>Section<br>in Text | Date of<br>Authorizing<br>Act                                 | Project and Work Authorized   | Documents   |
|---------------------------|---|---|---|
|                           | Nov. 17, 1986   | Deepen Inner and Outer Harbor channels to 42 feet. Widen entrance channel to 1,000 feet; relocate Outer Harbor turning basin 3,000 feet westward and widen turning basin to 1800 feet. Construct 1,200 foot turning basin in Inner Harbor.  | Public Law 99-662, 1986 WRDA  |
|                           | Aug. 17, 1999   | Deepen Inner and Outer Harbor channels to 50 feet. Widen Outer Harbor turning basin diameter to 1650 feet and widen Inner Harbor turning basin diameter to 1500 feet.   | Public Law 106-53, 106 <sup>th</sup> Cong., 1999 WRDA                                     |
| <b>4.</b>                 | <b>RICHMOND HARBOR, CA</b>                                    |   |   |
|                           | Aug. 8, 1917  | Channel 24 feet deep and 600 feet wide from San Francisco Bay to Ellis Slough (Santa Fe Channel); a turning basin at Point Potrero; a training wall.  | H. Doc. 515, 63rd Cong., 2d sess.   |
|                           | July 3, 1930  | A 30-foot channel with lessened widths; a turning basin at head of navigation.  | Rivers and Harbors Committee Doc. 16, 70th Cong., 1st sess.                               |
|                           | Aug. 30, 1935 <sup>4</sup>                                    | Increase project widths in inner harbor, maintenance of Santa Fe channel to 30 feet; approach areas in outer harbor to 32 feet.   | Rivers and Harbors Committee Doc. 7, 73rd Cong., 1st sess., and 10, 74th Cong., 1st sess. |
|                           | June 20, 1938   | Widen channel at Point Potrero and north thereof; enlarge and maintain to 30-foot depth turning basin at Terminal No. 1.  | H. Doc. 598, 75th Cong., 3rd. sess.   |
|                           | Mar. 2, 1945  | Channel 20 feet deep, 150 feet wide, in San Pablo Bay north of Point San Pablo.   | H. Doc. 715, 76th Cong., 3rd. sess.   |
|                           | Sep. 3, 1954  | Channel 35 feet deep and 600 feet wide adjacent to Southampton Shoal; enlarge and deepen to 35 feet approach area to Richmond Long Wharf; widen and deepen inner harbor and entrance channels; deepen turning basin at Point Richmond and southerly 2,000 feet of Santa Fe Channel. Eliminate restriction that widening north of Point Potrero will not be undertaken until local interests furnish assurances industries will avail themselves of improved navigation facilities and reclamation of Reservation Point. | H. Doc. 395, 83rd Cong., 2nd sess. <sup>1</sup>   |
|                           | Oct. 27, 1965   | West Richmond channel 45 feet deep, 600 feet wide; enlarge and deepen to 45 feet maneuvering area at Richmond Long Wharf (Sacramento Dist. "San Francisco Bay to Stockton, Calif. (John F. Baldwin and Stockton Ship Channels)").   | H. Doc. 208, 89th Cong., 1st sess. <sup>1</sup>   |
|                           | Nov. 17, 1986   | Deepen channel to 38 feet between Richmond Long Wharf and Santa Fe Channel. Construct 1,200 feet turning basin.   | Public Law 99-662, 1986 WRDA  |
| <b>6.</b>                 | <b>SONOMA BAYLANDS WETLANDS<br/>DEMONSTRATION PROJECT, CA</b> |   |   |
|                           | Oct. 5, 1992  | Restoration of tidal wetland on a 348-acre site using dredged material and construction of a replacement levee around the landward periphery of the site.   | Section 106, Public Law 102-580, 1992 WRDA  |
| <b>12.</b>                | <b>CORTE MADERA CREEK, CA</b>                                 |   |   |
|                           | Oct. 23, 1962   | Levees and channel improvements, lower 11 miles   | H. Doc. 545, 87th   |

**TABLE 34-B (Cont'd)                      AUTHORIZING LEGISLATION**

| <b>See Section in Text</b> | <b>Date of Authorizing Act</b> | <b>Project and Work Authorized</b>  | <b>Documents</b>  |
|----------------------------|--------------------------------|---|---|
|                            | Nov. 7, 1966                   | of Corte Madera Creek and tributaries, as modified by Chief of Engineers.<br>Local cooperation requirements modified to provide 1.5 percent cash contribution toward cost of Ross Valley unit.  | Cong., 2nd sess.<br>Sec. 204, 1966<br>Flood Control Act             |
|                            | Nov. 17, 1986                  | Modify existing project to direct construction of Unit 4 from Lagunitas Road Bridge to Sir Francis Drake Boulevard, and to include construction of floodproofing measures in vicinity of Lagunitas Road Bridge to insure proper functioning of completed portions of authorized project. Further modify project to eliminate any channel modifications upstream of Sir Francis Drake Boulevard. | Sec. 823, 1986<br>WRDA  |
| <b>13.</b>                 |                                | <b>PETALUMA RIVER, PETALUMA, CA</b>   |   |
|                            | Jun. 30, 1948                  | Floodwalls and channel improvements along 3,600 feet of the Petaluma River and tributaries.   | Flood Control Act of 1948, Public Law 80-858, 80th Cong., 2nd sess. |
|                            | Jan. 24, 2000                  | Provide a 100-year level of flood protection to the city of Petaluma.   | Public Law 106-541, 106 <sup>th</sup> Cong., 2d sess., 2000 WRDA    |
| <b>14.</b>                 |                                | <b>RUSSIAN RIVER BASIN, CA</b>  |   |
|                            | May 17, 1950                   | Coyote Valley Dam (Lake Mendocino): Channel improvements on lower 98 miles of Russian River and lower reaches of tributaries.   | H. Doc. 585, 81st Cong., 2d sess.                                   |
|                            | Feb. 10, 1956                  | Increased appropriation authorization for initial stage of project development.   | PL 404, 84th Cong., 2d sess.  |
|                            | Oct. 23, 1962                  | Dry Creek (Warm Springs) Lake; Channel Improvements on Dry Creek below dam.   | H. Doc. 547, 87th Cong., 2d sess.                                   |
|                            | Mar. 7, 1974                   | Dry Creek (Warm Springs) Lake and channel; compensate for fish losses on the Russian River which may be attributed to the operation of the Coyote Dam component of the project through measures such as possible expansion of the capacity of the fish hatchery at the Warm Springs Dam component of the project.   | Sec. 95, 1974<br>WRDA   |
| <b>19.</b>                 |                                | <b>HAMILTON AIRFIELD WETLANDS RESTORATION, CA</b>   |   |
|                            | Aug 17, 1999                   | Implement an ecosystem and wetland restoration project at the Hamilton Army Airfield and adjacent properties and lower reaches of tributaries.  | Public Law 106-53, 106 <sup>th</sup> Cong., 1999<br>WRDA            |

1. Contains latest published map.
2. Included deepening of tidal canal above Park Street Bridge to 25 feet, which was deauthorized November 6, 1977.
3. Reconstruction of Fruitvale Avenue

Highway Bridge (S. Doc. 75, 87th Cong., 2d sess.) which was deauthorized November 6, 1977.

4. Included in part in Public Works Administration Program, September 6, 1933.

**SAN FRANCISCO, CA, DISTRICT**

**TABLE 34-C OTHER AUTHORIZED NAVIGATION PROJECTS**

| Project  | Status    | For Last Full Report See Annual Report For | <u>Cost to Sep. 30 2001</u> |                           |
|--|-----------|--|-----------------------------|---------------------------|
|  |           |  | Construction                | Operation and Maintenance |
| Berkeley Harbor, CA <sup>1</sup>                     | Completed | 1966                                       | \$ 155,550 <sup>2</sup>     | \$104,702 <sup>9</sup>    |
| Berkeley Marina, CA <sup>1</sup>                     | Completed | 1979                                       | 505,201 <sup>3</sup>        | -                         |
| Monterey Harbor, CA                                  | Completed | 1971                                       | 1,108,182 <sup>4</sup>      | 2,022,188 <sup>5</sup>    |
| San Francisco Harbor (Islais Creek), CA <sup>1</sup> | Completed | 1976                                       | 848,227 <sup>7</sup>        | 156,995 <sup>11</sup>     |
| San Francisco Marina (Gas House Cove), CA            | Completed | 1974                                       | 180,472 <sup>6</sup>        | 97,513 <sup>10</sup>      |
| San Leandro Marina (Breakwater), CA <sup>1</sup>     | Completed | 1976                                       | 210,390 <sup>8</sup>        | 238,481 <sup>12</sup>     |
| Sausalito Canal, Richardson Bay, CA                  | Inactive  | 1963                                       | 103,095                     | 134,402 <sup>13</sup>     |

1. Authorized by Chief of Engineers (Sec. 107, Public Law 86-645).

2. Excludes \$155,551 contributed funds.

3. Excludes \$378,989 contributed funds.

4. Includes \$207,800 Public Works Administration funds and breakwater modifications (1960 Act) placed inactive 1974. The barrier groin and sandtrap feature of the project was deauthorized November 17, 1986, by WRDA of 1986.

5. Includes \$2,022,188 for reconnaissance and condition survey for FY 1956-2001.

6. Includes preauthorization costs \$26,855 and excludes contributed funds \$153,618.

7. Includes \$94,550 preauthorization costs.

8. Includes \$72,000 preauthorization costs and excludes contributed funds \$138,189.

9. Includes \$104,702 for jetty condition surveys for FY 1987-2001.

10. Includes \$97,513 for reconnaissance and condition survey for FY 1990-2001.

11. Includes \$156,995 for reconnaissance and condition survey for FY 1994-2001.

12. Includes \$238,481 for reconnaissance and condition survey through FY 2001.

13. Includes \$64,237 for reconnaissance and condition survey through FY 2001.

**TABLE 34-G DEAUTHORIZED PROJECTS**

| Project  | For Last Full Report See Annual Report For | Date Deauthorized | Federal Funds Expended | Contributed Funds Expended |
|--|--|-------------------|------------------------|----------------------------|
| Humboldt Bay (Buhne Point), CA   | 1958                                       | Jan. 1, 1990      | \$ 2,000               | -                          |
| Lower San Francisco Bay, CA  | 1935                                       | Jan. 1, 1990      | -                      | -                          |
| Knights Valley Lake, R.R. Basin, CA  | 1974                                       | Aug. 5, 1977      | -                      | -                          |
| Oakland Harbor, CA (Deepen Tidal Canal)  | 1981                                       | Nov. 6, 1977      | -                      | -                          |
| Oakland Harbor, CA (Fruitvale Avenue Bridge)                                       | 1981                                       | Nov. 6, 1977      | -                      | -                          |
| San Lorenzo Creek, CA (Upper Portion)  | 1962                                       | Nov. 6, 1977      | -                      | -                          |
| San Pablo Bay and Mare Island Strait, CA (Approaches to Vallejo and South Vallejo) | 1982                                       | Nov. 6, 1977      | -                      | -                          |
| Santa Cruz County, CA  | 1966                                       | Jan. 1, 1990      | 245,639                | -                          |
| Santa Cruz Harbor (Sealing & East Jetty)   | 1990                                       | Nov 29, 1995      | -                      | -                          |

**TABLE 34-H**

**INSPECTION OF COMPLETED  
FLOOD CONTROL PROJECTS**

(See Section 10 of Text)

| Location                         | Dates of Inspection |
|----------------------------------|---------------------|
| Alameda Creek                    | May 2001            |
| Corte Madera Creek               | May 2001            |
| Coyote Creek, Marin County       | May 2001            |
| Coyote Creek, Santa Clara County | Sep 2001            |
| Dry Creek                        | Aug 2001            |
| East Weaver Creek                | Jun 2001            |
| Eel River at Sandy Prairie       | Jun 2001            |
| Guadalupe River                  | Jul 2001            |
| Klamath River                    | Jun 2001            |
| Mad River at Blue Lake           | Jun 2001            |
| Pajaro River, Monterey County    | Apr 2001            |
| Pajaro River, Santa Cruz County  | Apr 2001            |
| Pinole Creek                     | Apr 2001            |
| Redwood Creek                    | Jun 2001            |
| Rheem Creek                      | Apr 2001            |
| Rodeo Creek                      | Apr 2001            |
| Russian River, Mendocino County  | Jun 2001            |
| Russian River, Sonoma County     | Jun 2001            |
| San Leandro                      | May 2001            |
| San Lorenzo Creek                | Apr 2001            |
| San Lorenzo River                | Jul 2001            |
| San Pablo Creek                  | Apr 2001            |
| Uvas Creek                       | Jul 2001            |
| Wildcat Creek                    | Aug 2001            |

**SAN FRANCISCO, CA, DISTRICT**

**TABLE 34-I** **RUSSIAN RIVER BASIN, CA: ESTIMATED COST FOR NEW WORK**  
(See Section 15 of Text)

| <b>Project Feature</b>   | <b>Federal</b> | <b>Estimated Cost<br/>Non-Federal<br/>Contribution</b> | <b>Total</b>               |
|--|----------------|--|----------------------------|
| Coyote Valley Dam (Lake Mendocino):                                  |                |  |                            |
| Channel Improvements below Dam<br>on lower 98 miles of Russian River | \$ 11,952,000  | \$ 5,598,000   | \$ 17,550,000 <sup>1</sup> |
| (Warm Springs) Lake and  |                |  |                            |
| Channel Improvements below Dam                                       | 361,700,000    | 120,000 <sup>2</sup>                                   | 361,820,000                |
| Total  | \$373,652,000  | 5,718,000  | \$ 379,370,000             |

1. Exclusive of \$1,628,000 for recreation facilities at completed projects. be paid over a period not to exceed 50 years after use of storage is initiated and inclusive of lands and damages.

2. Reimbursements by local interests to Federal Government for costs allocated to water supply storage to

**TABLE 34-J** **RUSSIAN RIVER BASIN, CA: PROJECT FEATURES AND ESTIMATED COST**  
(See Section 15 of Text)

| <b>Name</b>  | <b>Nearest City<br/>(California)</b> | <b>Distance<br/>Above Mouth</b>        | <b>Height of<br/>Height of<br/>Dam<br/>Type</b> | <b>Capacity<br/>(Acre-Ft)</b> | <b>Estimated<br/>Cost</b>  |
|--|--------------------------------------|--|---|-------------------------------|----------------------------|
| Coyote Valley Dam<br>Mendocino)  | Ukiah                                | Mile 0.8 East Fork<br>of Russian River | 160 Feet-<br>Earthfill                          | 122,500                       | \$ 17,550,000 <sup>1</sup> |
| Channel Improvements (East<br>Fork)  | Ukiah                                | Mile 0 to 0.8 East Fork                | -   | -                             | 24,484,000                 |
| below Coyote Valley Dam<br>and lower 98 miles of<br>Russian River                                    | Guernville                           | Mile 0 to 98, Russian<br>River         | -   | -                             | -                          |
| Dry Creek (Warm Springs<br>Channel Improvements (Dry<br>Creek) below Dry Creek<br>(Warm Springs Dam) | Healdsburg                           | Mile 14.4 Dry Creek                    | 319 Feet-<br>Earthfill                          | 181,000                       | 363,017,000                |
|  | Healdsburg                           | Mile 1 to 14.4 Dry Creek               | -   | -                             | 2,864,000                  |

1. Exclusive of \$1,628,000 for recreation facilities at completed projects.

# SACRAMENTO, CA, DISTRICT

This district comprises basins of Suisun Bay and San Joaquin and Sacramento Rivers in California; Goose Lake in Oregon; basins of the Great Salt Lake and Sevier Lake in Utah; an intervening portion of Great Basin in northern Nevada, northern California, and

southeastern Idaho; and the upper Colorado River basin, which is in southwestern Wyoming, eastern Utah, northeastern Arizona and western Colorado, west of the Continental Divide.

## IMPROVEMENTS

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## Navigation

### 1. SACRAMENTO RIVER, CA

**Location.** Rises in Trinity Mountains in north-central California, flows generally southerly about 374 miles and empties into Suisun Bay, an arm of San Francisco Bay, at Collinsville, CA. (See Geological Survey topographic map of Sacramento Valley, CA.)

**Previous projects.** For details see page 1985 of Annual Report for 1915 and page 1708 of Annual Report for 1938.

**Existing project.** For description of Sacramento Deep Water Ship Channel, see Annual Report for 1969. Total first cost for completed portion was \$43,932,558 (\$39,560,558 Federal (Corps), \$300,000 (Coast Guard), and \$4,072,000 non-Federal for lands and damages, including relocations) and excludes local Interests cost \$10,741,000 (June 1963) for 30-foot deep connecting canal basic terminal facilities required under terms of project authorization. Project also provided for a shallow-draft channel 10 feet deep at mean lower low water 150 to 200 feet bottom width, from Suisun Bay to Sacramento, CA, 60 miles; a depth of 6 feet at low water between Sacramento and Colusa, 85 miles; a depth of 5

feet at low water between Colusa and Chico Landing, 50 miles; and such depths as practicable between Chico Landing and Red Bluff, 53 miles, a total distance of 248 miles. However, shallow-draft channel feature Colusa to Red Bluff (including Colusa to Chico Landing, 50 miles and Chico Landing to Red Bluff, 53 miles) was deauthorized by 1986 Water Resources Development Act on November 17, 1986 (Public Law 99-662). (See table 35-H on tidal and flood conditions prevailing.)

**Local cooperation.** Fully complied with for deep water ship channel project. None required on shallow-draft feature.

**Terminal facilities.** Piers, wharves, and docks at Port of Sacramento for shallow-draft navigation are open-pile structures with timber decks, some of which are designed to meet extreme high waters of flood stages. All main wharves at Sacramento have rail connections. Three of above facilities are owned by city of Sacramento and remainder by private interests; all are privately operated. For full description see "Port and Terminal Facilities at the Ports of Sacramento, Stockton, Pittsburg and Antioch, Calif., 1986." Deep water terminal facilities comprise wharves and piers, administration and storage buildings, and belt railroad facilities. Majority of these facilities are owned and

operated by Sacramento-Yolo Port District; remainder are privately owned and operated. Facilities are considered adequate for existing commerce.

**Operations during fiscal year.** New work, Deep Water Ship Channel: None. Maintenance: Shallow Draft Channel: Maintenance and operation activities continued in Sacramento River, Sacramento upstream to Colusa. Deep Water Ship Channel: Maintenance and operation activities continued.

**Historical summary.** Construction of 7-foot shallow-draft channel below Sacramento was initiated in September 1899 and completed in 1904. Modified 10-foot shallow-draft channel up to Sacramento was initiated in FY 1928 and completed in 1931. Shallow-draft channel above Sacramento was begun in April 1946 but new work was discontinued when about 48 percent complete. In February 1974, remaining work for shallow-draft portion of project, provision of a 5-foot depth between Colusa and Chico Landing (50 miles), was reclassified as "deferred." Channel is navigable all year; however, there is no regular navigation above Colusa, 145 miles above river mouth. On November 17, 1986, remaining shallow-draft feature, Colusa to Red Bluff (including Colusa to Chico Landing, 50 miles and Chico Landing to Red Bluff, 53 miles) was deauthorized by 1986 Water Resources Development Act (Public Law 99-662). Construction of 30-foot deep water ship channel was initiated in July 1949; improvement dredging by continuing contracts resulted in provision of an operational facility for oceangoing vessels during June 1963. Bascule bridge was completed in April 1960, barge lock in August 1961, barge canal in November 1961, and entire deep water ship channel in June 1970.

## 2. SACRAMENTO RIVER DEEP WATER SHIP CHANNEL, CA

**Location.** The project is located on the Sacramento River, between Collinsville and the Port of Sacramento, a distance of approximately 43 miles, in the counties of Sacramento, Contract Costa, Solano and Yolo, CA.

**Existing project.** Existing waterways are inadequate to efficiently accommodate vessels currently using the

channel. Because of the depth restriction, only 20% of the world's fleet can currently load to full design depth. Once deepened, the Port of Sacramento will be able to accommodate 70% of the world's fleet at full design draft. The project plan is to deepen the existing 30 feet Sacramento River Deep Water Ship Channel from N.Y. Slough to the Port of Sacramento, a distance of about 43 miles, to 35 feet, and widen the channel as necessary. The project provides for establishment of wetland habitat and upland habitat to mitigate for such losses. Recreation was also authorized although no local sponsor has been identified. Current project estimate is \$50,000,000 and is comprised of Federal cost (Corps) of \$24,900,000; Federal cost (Coast Guard-for navigation aids) of \$300,000 and non-Federal cost of \$24,800,000.

**Local cooperation.** A Local Cooperation Agreement (LCA) was signed with the local sponsor, the Port of Sacramento, in June 1986. A modification to the LCA, necessitated by the Water Resources Development Act of 1986, was executed in December 1988. The local sponsor will provide lands, easements, rights of way and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities, where necessary in the construction of the project; and pay 25 percent of the costs allocated to deep draft navigation during construction.

**Terminal facilities.** All main wharves at Sacramento have rail connections. Three facilities are owned by the City of Sacramento and the rest are privately owned; all are privately operated. For full description, see "Port and Terminal Facilities at the Ports of Sacramento, Stockton, Pittsburg and Antioch, Calif., 1986". Deepwater terminal facilities are comprised of wharves, piers, administration and storage buildings and belt railroad facilities. The majority of these facilities are owned and operated by the Sacramento-Yolo Port District and the rest are privately owned and operated. The facilities are considered adequate for existing commerce.

**Historical summary.** Funds to initiate pre-construction planning were appropriated in fiscal year 1982. Project construction was authorized by the Supplemental Appropriations Act of 1985 and modified by the WRDA 1986. The General Design Memorandum was approved and the Record of Decision was signed in May 1987. The modified LCA was executed in December 1988. The first construction contract for

deepening was awarded in February 1989 and completed in July 1990. A second construction contract was awarded in September 1990 and completed in August 1991. Construction from River Mile 43 to River Mile 35 has been completed. In fiscal year 1996, the sponsor requested indefinite suspension of the project due to their inability to meet their cost share requirements. Based on Congressional direction in Conference Report 105-749, dated September 25, 1998, the Corps has developed a study plan outlining the scope, schedule and costs to prepare a Engineering Documentation Report (EDR). This preliminary assessment has been submitted to the sponsor for their review and a determination will be made as to proceeding with the EDR. This plan, together with the sponsor's financing plan, will serve as the basis for requesting additional Federal funds for costs associated with the EDR. Section 305 of WRDA 2000 "authorized credit toward the non-Federal share of the cost of the project the dredged material from the project that is purchased by public agencies or nonprofit entities..."

**Operations during fiscal year.** Completed the study plan and continued project coordination. Fiscal Year costs total \$2,349. Dredging was initiated and completed t a contract cost of \$2,315,700.

### 3. SAN FRANCISCO BAY TO STOCKTON, CA (JOHN F. BALDWIN AND STOCKTON SHIP CHANNELS)

Reported on by the San Francisco District. Refer to Report of the Secretary of the Army on Civil Works Activities for FY 1995.

### 4. SAN JOAQUIN RIVER, CA

**Location.** Rises in east central California and flows westerly and northwesterly about 340 miles to its confluence with Sacramento River at head of Suisun Bay, 48 miles northeast of San Francisco. Deep water channel in San Joaquin River extends 41 miles from its mouth in Suisun Bay at Pittsburg to city of Stockton. Waterborne access to city provided by Stockton Channel, an artificial cut extending from river about 2 miles into city. (See Coast and Geodetic Survey Sheet 5527.)

**Existing project.** For description of completed improvement, modifications, and authorizing acts, see

Annual Report for 1967. (See table 35-I for total cost of new work for project completed in May 1960.)

Projects units (1950 modification) reclassified and excluded from project cost are set forth in table 35-J.

Modification of existing project is included as one unit of San Francisco Bay to Stockton, CA, (John F. Baldwin and Stockton Ship Channels) project, authorized by 1965 River and Harbor Act (H. Doc. 209, 89th Cong., 1st sess.); this modification is reported in detail under Sacramento District, improvement No. 3 and San Francisco District, Improvement No. 3.

**Local cooperation.** Fully complied with for completed portion of project; for details of required cash contributions on completed, inactive and deferred portions of project, see Existing project paragraph, Annual Report for 1967.

**Terminal facilities.** For description of harbor facilities at Port of Stockton, CA, see Port Series 32, "The Ports of Sacramento, Stockton, Pittsburg and Antioch, Calif.," revised 1986. Downstream from Stockton, traffic is accommodated by bank landings and sheds except at Antioch and near Pittsburg, where there are wharves for shallow- and deep-draft vessels. Terminal transfer facilities at public ocean terminal of Port of Stockton are adequate for present and immediate future.

**Operations and results during fiscal year.** Maintenance: Condition studies and miscellaneous inspections and reports were accomplished by hired labor. Dredging was initiated and completed at contract cost of \$1,760,500. (Repair or restoration of wavewash protection is required by legislation authorized by Improvement No. 3.)

**Historical Summary.** Active portion of existing project was completed in May 1960. Construction of project was initiated in December 1877.

### Flood Control

### 5. AMERICAN RIVER WATERSHED, (Common Features)

**Location.** The project is located in Placer, El Dorado,

and Sacramento Counties on the North, Middle and South Forks of the American River and along the lower American River and Sacramento Rivers.

**Existing Project.** Recent evaluations indicate that the level of flood protection along much of the American River and in the Natomas area is less than the 100-year level. The project consists of levee improvements including a slurry wall along 21 miles of the lower American River, levee modifications along 12 miles of the Sacramento River, telemetered gages above Folsom Dam, improving the flood warning system for the lower American River, installing a closure structure at Mayhew Drain, 3 miles of levee modifications along lower American River, and levee modifications along 10 miles of the Natomas Cross Canal. Cost estimate (October 2000) is \$96,000,000 (includes an allowance for estimated inflation through the construction period), of which \$72,200,000 is Federal cost and \$23,800,000 is non-Federal cost (which includes \$17,670,000 cash contribution).

**Local cooperation.** In accordance with cost sharing requirements specified in Water Resources Development Act (WRDA) of 1986, local interests are required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, and pay 18 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. Project cooperation agreement (PCA) was signed July 13, 1998.

**Operations and results during fiscal year.** Construction contract for levee improvements along the right bank of the lower American River continued with a fiscal year cost of \$8,120,000. Construction contracts were awarded for levee improvements along the left bank of the lower American River with a fiscal year cost of \$4,436,000. Remaining fiscal year cost of \$4,365,000 was for associated engineering and design and construction management costs.

**Historical summary.** The Defense Appropriations Act for FY 1993 authorized construction of the Natomas feature of the project, which includes levee

improvements around the perimeter of the Natomas basin, a 300-acre detention area in North Natomas, and recreation trails. The local sponsor has already constructed much of the project. Federal Construction General funds were appropriated in FY 1998 to initiate reimbursement to the sponsor for the Federal share of the project. Initial reimbursement of \$15 million was made to the sponsor in September 1999. The Defense Appropriations Act for Fiscal Year 1993 also directed the Corps to reevaluate other features recommended in the Feasibility Report and a Supplemental Information Report (SIR) was completed in March 1996. The Chief of Engineer's Report recommended implementation of elements common to the final candidate plans presented in the SIR. These "common elements" were authorized for construction in WRDA 96 and Federal Construction General funds were appropriated in FY 1998 for initiation of construction. Sec. 366 of WRDA 99 authorized additional levee improvements as part of the overall project.

## **6. AMERICA RIVER, CA (Natomas)**

See PED's 35-31

## **7. BUCHANAN DAM-H.V. EASTMAN LAKE, CHOWCHILLA RIVER, CA**

**Location.** On Chowchilla River about 36 miles above its mouth and about 16 miles northeast of city of Chowchilla, CA. (See Geological Survey quadrangles for area.)

**Existing project.** Provides for construction of a 205-foot high rockfill dam to create a reservoir with gross storage capacity of 150,000 acre-feet for flood control, irrigation, recreation, and fish and wildlife. In conjunction with dam, project plan provides for about 12 miles of downstream levee and channel construction on Ash Slough to accommodate a project design flow of 5,000 cubic feet per second within slough and 7 miles of levee and channel improvement on Berenda Slough. Operation and maintenance of dam and reservoir is the responsibility of the Federal Government. Total first cost for existing project is \$28,919,597, of which \$27,369,597 is Federal cost, including \$4,580,000 for basic recreation facilities, and \$1,550,000 non-Federal costs for lands and damages, including relocations for downstream levee and channel improvements. Local interests have contracted with the Bureau of Reclamation for irrigation service. For future non-Federal

reimbursement, see Local cooperation paragraph. Local interests have also, over a period of years expended about \$500,000 for construction of low levees and clearing downstream channels to provide some local flood protection in project area. This work is inadequate during major floods. Existing project was adopted by 1962 Flood Control Act (S. Doc. 98, 87th Cong., 2d sess., contains latest published map). Lake formed by Buchanan Dam on Chowchilla River was designated "H.V. Eastman Lake" by Public Law 93-217.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** New work: None. Maintenance: Maintenance and operation activities were continued. Runoff of Chowchilla River above Buchanan Dam was above normal for the year. Maximum storage of 86,132 acre-feet occurred March 19, 2001. Maximum hourly inflow to reservoir was 2,396 cubic feet per second on March 5, 2001. Maximum release of 578 cubic feet per second on March 30, 2001, was above maximum permissible flood release. During the year, a total of 82,679 acre-feet of water was released for irrigation and other purposes. Releases for flood control purposes totaled 0 acre-feet.

**Historical summary.** Construction began in July 1971 and was completed in May 1979. Construction of Buchanan and Hidden dam and appurtenances was combined under one contract. Project was completed in September 1983, except for installation of piezometers (now deferred indefinitely). Dam closure was in March 1975; dam was completed in January 1976. Reservoir clearing and boundary marking were completed May 1975. Bifurcation structure was completed in February 1976. Channel improvement, Ash and Berenda Sloughs, was completed in March 1976. Recreation areas: Phase I was completed in January 1976; Phase II was completed in February 1978. Residences, administration building, and visitors center contract was completed in May 1978. Landscaping was completed in May 1979 and erosion control was completed in April 1979. A resources interpretive display and road relocation were completed in FY 1982. Dam safety assurance studies were initiated in FY 1981. Solar heating was installed at Chowchilla recreation area in FY 1984. An hydrilla eradication (spraying) program was initiated in FY 1989. Final land audit was approved on December 3, 1985.

## 8. CACHE CREEK BASIN, CA (CACHE

### CREEK SETTLING BASIN)

**Location.** At the mouth of Cache Creek in Yolo County where it enters the Yolo Bypass about 2 miles east of city of Woodland and about 15 miles northwest of city of Sacramento, CA.

**Existing project.** Provides for raising the perimeter levees of the existing settling basin an average of 12 feet, extending the levees upstream to County Road 102 to provide 50-year sediment storage capacity, enlarging and reconstructing the cobble weir, and degrading existing training levees and rebuilding them adjacent to western perimeter levee to provide 50 years of sediment storage capacity (340 acre-feet annually.). Estimated cost (October 2000) for existing project is \$27,100,000 (includes an allowance for estimated inflation through the construction period), of which \$16,960,000 is Federal and \$10,140,000 is non-Federal (which includes \$1,340,000 cash contribution). For future non-Federal reimbursement, see Local cooperation paragraph. Existing project was adopted by Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986 (HD 98-134, 98th Cong., 1st sess., contains published map.) Project as authorized included development of a national wildlife refuge within the settling basin; however, the Department of the Army determined that such refuge would be more appropriately funded and developed by the U.S. Fish and Wildlife Service. Refuge feature was reclassified to deferred category on April 11, 1988.

**Local cooperation.** Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in construction of the project; pay 5 percent of cost allocated to flood control, and bear all costs of operation, maintenance and replacement of flood control facilities. Local interests have agreed to make all required payments concurrently with project construction. Local Cooperation Agreement was executed March 12, 1990.

**Operations and results during fiscal year.** Engineering activities were continued.

**Historical summary.** Local Cooperation Agreement was executed March 12, 1990. Cache Creek Settling Basin enlargement (multicomponent) construction

contract was awarded August 5, 1991, completed in September 1993, and work was transferred to local interests for operation and maintenance on December 2, 1993.

## **9. CALAVERAS RIVER AND LITTLEJOHN CREEK AND TRIBUTARIES, INCLUDING NEW HOGAN LAKE AND FARMINGTON DAM, CA**

**Location.** Streams comprising Calaveras River and Littlejohn Creek groups rise in Sierra Nevada and its foothills, flow easterly across flatlands of San Joaquin Valley and empty into San Joaquin River directly, or through various sloughs, in vicinity of Stockton, CA. Littlejohn Creek is in Calaveras, Stanislaus, and San Joaquin Counties. The three principal stream systems of the group are, from south to north, Lone Tree Creek, Littlejohn Creek, and Duck Creek. Calaveras River group is in Calaveras and San Joaquin Counties. The two principal streams of the groups are, from south to north, Calaveras River and Bear Creek. (See Geological Survey Valley Springs quadrangle for New Hogan reservoir area and Trigo and Bachelor Valley quadrangles for Farmington reservoir area.)

**Existing project.** For description of completed improvements consisting of Farmington Dam, New Hogan Lake, and Bear Creek levee and channel improvement, and authorizing act, see Annual Report for 1967. (a) Farmington: Total first cost (July 1955) for project was \$3,995,684, of which \$3,676,384 was Federal and \$319,300 non-Federal for lands and damages including relocations. (b) New Hogan: Federal cost for project is \$15,906,150, including \$543,514 for basic recreation facilities. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost for recreation facilities funded from Code 710 appropriations is \$897,742. (c) Bear Creek: Project cost is \$6,485,734, of which \$3,242,867 is Federal, including reimbursement (\$488,096) to local interests of one-half of excess local interest cost of lands, rights-of-way, and relocations over estimated Federal construction cost in accordance with section 3, Public Law 738, 74th Congress. Non-Federal cost included in above amount is \$3,242,867 for relocations and lands and damages, exclusive of above Federal reimbursement.

**Local cooperation.** Fully complied with. New Hogan: Local interests must pay portion of first cost and annual operation and maintenance costs allocated to conservation functions of project. These costs are estimated at 36.2 percent of first cost and 38 percent of annual costs. In addition, local interests contributed land, the (July 1964) market value of which was \$556,000. For years 1961 through 1970, an interim contract between the Bureau of Reclamation and local water users provided for storage and payment of irrigation water; a long-term contract between that agency and local water users was executed August 25, 1970. Local interests paid \$5,118,764 through December 31, 2001. A concessionaire at New Hogan Marina provided public use facilities in accordance with lease agreement with the Secretary of the Army at an estimated cost to date of \$234,000.

**Operations and results during fiscal year.** New work: New Hogan Lake, regular funds: None. Code 710 funds: None. Bear Creek, San Joaquin County: None. Maintenance: Farmington Dam Maintenance and operation activities continued; structures were maintained in serviceable condition. During rainflood season, maximum flow of Duck Creek Diversion was 392 cubic feet per second on March 5, 2001. Maximum flow of Littlejohn Creek at Farmington was 958 cubic feet per second on March 5, 2001. Maximum flow of Duck Creek near Farmington was 206 cubic feet per second on March 5, 2001. Maximum storage in reservoir was 2,216 acre-feet on March 6, 2001, and maximum estimated inflow to reservoir was 2,465 cubic feet per second on February 24, 2001. Maximum release of 627 cubic feet per second on March 6, 2001, was above maximum permissible flood release. During the year, 50,163 acre-feet was released for flood control. Release for flood control purposes amounted to 28,362 acre-feet. New Hogan Lake Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff of Calaveras River above New Hogan was above normal for the year. Maximum storage of 184,640 acre-feet occurred April 24, 2001. Maximum hourly inflow to reservoir was 3,375 cubic feet per second on March 5, 2001. Maximum release of 252 cubic feet per second on June 1, 2001, was above maximum permissible flood release. During the year, 82,010 acre-feet was released for irrigation and other purposes. Release for flood control purposes amounted to 0 acre-feet.

**Historical summary.** Farmington Dam: Construction of Farmington project was initiated in July 1949 and completed for beneficial flood control operation in 1952. Duck Creek channel improvement was completed in November 1951; and channel improvement on south Littlejohn Creek was completed in May 1955. There are no recreation facilities or public-use areas. All work completed. Dam safety assurance studies were initiated in FY 1982. New Hogan Lake: Construction was initiated May 1960, main dam closure November 1963, project completed for operational use in June 1964, and all work completed October 1973. Recreation facilities have been provided from Code 710 appropriations. See page measurement weir constructed in June 1980. Dam safety assurance studies were initiated in FY 1980. Bear Creek, San Joaquin County: Construction began in June 1963 and was completed in June 1967. Final cash contribution was made to local interests December 23, 1970. Solar heating was installed at recreation facilities in FY 1984. A cultural resources survey was completed in FY 1984.

## 10. COLORADO RIVER AT GRAND JUNCTION, CO

**Location.** On north bank of Colorado River from 9th Street west to the Denver Rio Grande Western Railroad Bridge at city of Grand Junction, CO, in Mesa County.

**Existing project.** Provides for construction of a 3,200 foot levee located on north side of Colorado River, one road ramp over levee for accessing Watson Island, 3 detention basins, a relief well system and a 550-foot-long impermeable blanket to prevent seepage through railroad embankment. Estimated cost (September 1994) is \$1,651,200, of which \$1,086,700 is Federal cost and \$564,500 is non-Federal cost for lands and damages and includes a cash contribution of \$63,000. Existing project was approved by Chief of Engineers on February 28, 1994, under provisions of section 205, 1948 Flood Control Act, as amended.

**Local cooperation.** Local sponsor shall furnish to the Government all lands, easements, and rights-of-way, including suitable borrow and dredged material disposal areas, as determined by the Government to be necessary for construction, operation, and maintenance of the project, and shall furnish to the Government evidence supporting local sponsor's legal authority to grant rights-of-entry to such lands. Necessary lands,

easements, and rights-of-way may be provided incrementally, but all lands, easements, and rights-of-way determined by the Government to be necessary for work to be performed under a construction contract must be furnished prior to advertisement of the construction contract.

Local sponsor shall provide or pay to the Government the cost of providing all retaining dikes, wasteweirs, bulkheads, and embankments, including all monitoring features and stilling basins that may be required at any dredged material disposal areas necessary for project construction.

Upon notification from the Government, local sponsor shall accomplish or arrange for accomplishment at no cost to the Government all relocations (excluding railroad bridges and approaches thereto) determined by the Government to be necessary for project construction.

Local sponsor shall comply with all applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (Public Law 100-17), and the Uniform Regulations contained in 49 CFR Part 24, in acquiring lands, easements, and rights-of-way for construction and subsequent operation and maintenance of the project, and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act. Local sponsor shall provide such documentation as contracting officer requires to demonstrate compliance.

The Local Cooperation Agreement (LCA) between the Department of the Army and the City of Grand Junction, CO, was signed April 8, 1994.

**Operations and results during fiscal year.** O&M Manual and As-Built drawings were finalized. Project audit, close-out activities and fiscal completion continued.

**Historical summary.** Plans and specifications were completed in August 1994. Non-Federal cash contribution of \$63,000 for construction was received September 27, 1994. First construction contract in amount of \$575,830 was awarded September 30, 1994.

## 11. CORTE MADERA CREEK, CA

Reported on by San Francisco District. Refer to Report of the Secretary of the Army on Civil Works Activities for FY 1996.

## **12. COYOTE CREEK, CA (KNOWN AS COYOTE AND BERRYESSA CREEKS)**

**Location.** Project is located in the cities of San Jose and Milpitas immediately south of San Francisco Bay in Santa Clara County, CA.

**Existing project.** Plan of improvement on Coyote Creek consists of overflow channels and offset levees. Improvement on Berryessa Creek includes two sedimentation basins at the upstream end of the concrete lined trapezoidal channel and offset levees. Combined plan would provide flood protection from Coyote and Berryessa Creeks to cities of San Jose and Milpitas, which include large industrial complexes and some residential development. Estimated cost (October 1998) for the Coyote Creek element of the existing project is \$61,750,000 (includes an allowance for estimated inflation through the construction period), of which \$30,890,000 is Federal and \$30,860,000 is non-Federal (which includes \$3,100,000 cash contribution). For future non-Federal reimbursement, see Local cooperation paragraph. Estimated cost (October 1998) for the Berryessa Creek element of the existing project is \$16,525,000 (includes an allowance for estimated inflation through the construction period), of which \$12,425,000 is Federal and \$4,100,000 is non-Federal (which includes \$1,830,000 cash contribution). Existing project was authorized under Section 101(a)(5) of WRDA 1990, Public Law 101-640 (HD 101-126, 101st Cong., 2d sess.).

**Local cooperation.** (Coyote Creek) Local interests are required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas, which may be reduced for credit allowed based on prior work (Sec. 104 of WRDA 86 (\$8,633,000), Sec. 26 of WRDA 88 (not to exceed \$3,000,000) and Sec. 215 of the Flood Control Act of 1968 (not to exceed \$3,000,000) after reductions for such credit have been made in the required cash payments; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, and perform prior work under Sec. 104 of WRDA 86, Sec. 26 of WRDA 88, and Sec. 215 of the

Flood Control Act of 1968, where necessary for the construction of the project; and pay 5 percent of the costs allocated to flood control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. Local interests will receive an estimated Federal reimbursement of \$8,280,000 for one-half of non-Federal costs allocated to flood control in excess of Federal costs (Sec. 103 of WRDA 86). (Berryessa Creek) Local interests are required to provide lands, easements, rights-of-way, and borrow and excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project; and pay 11 percent of the costs allocated to flood control to bring the total non-Federal share of flood control costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities.

The non-Federal sponsor has also agreed to make all required payments concurrently with project construction.

**Operations and results during fiscal year.** Coyote Creek mitigation contract continued at a fiscal year cost of \$162,711.

**Historical summary.** Separate General Design Memorandums were prepared for Coyote and Berryessa Creeks. General Design Memorandum for Coyote was submitted in May 1993. Local interests have completed construction of Reach 1 (Sec 104, Water Resources Development Act (WRDA), Reach 2 (Sec 26, WRDA) and Reach 3A (Sec 215, WRDA). National Defense Authorization Act for FY 1994 directed the Secretary of the Army to construct project notwithstanding sec 902, WRDA. Project Cooperation Agreement was executed in September 1994. Coyote Creek Reach 3B construction contract was completed at a final cost of \$5,308,925. Preconstruction engineering and design cost is \$4,410,000. Total reimbursement of \$7,400,000 for costs in excess of 50% maximum requirement and credit payments of \$14,633,000 for prior integral work, have been made to the local sponsor as of September 30, 1997.

## **13. FAIRFIELD VICINITY STREAMS, CA**

**Location.** On five streams in vicinity of cities of Fairfield and Suisun, Solano County, CA.



**Existing project.** See Annual Report for 1996, p.35-8.

**Local cooperation.** Fully complied with. In accordance with FY 1985 Supplemental Appropriations Act (Public Law 99-88) and sec. 117 of the Further Continuing Appropriations Act for FY 1986 (Public Law 99-190), a Local Cooperation Agreement for flood control and recreation (Sec. 221) was executed June 3, 1986.

**Operations and results during fiscal year.** Project close-out activities were on-going.

**Historical summary.** Construction was initiated in October 1986. Enlargement of McCoy Creek and construction of Laurel Creek Diversion Channel, Phase I, was transferred to local interests in July 1987; Laurel Creek Diversion Channel, Phase II, was transferred to local interests in November 1988; Laurel Creek Diversion Channel, Phase III, was transferred to local interests in April 1990; and Laurel Creek Diversion , Phase IIA, was transferred to local interests in December 1990 for maintenance. Channel improvement contract for Ledgewood Creek Channel, Phase IV, was completed and transferred to local interests in December 1991 for maintenance. Mitigation planting on Ledgewood Creek was completed in April 1993; maintenance inspection has been completed. Construction of Laurel Creek pedestrian bridge overcrossing was completed and transferred to local interests on July 8, 1993.

## 14. GUADALUPE RIVER, CA

**Location.** On Guadalupe River in downtown area of city of San Jose, Santa Clara County, CA.

**Existing project.** Authorized plan provides for widening and deepening one or more sides of Guadalupe River for 2.5 miles from Interstate Highway 280 to Interstate Highway 880 in downtown San Jose, CA, and channel modifications with provisions for fish and wildlife mitigation, as necessary. Non-Federal sponsor must pay 100 percent of incremental construction cost of locally preferred plan. Project is an integral component of a much larger regional park plan being undertaken by the San Jose Redevelopment Agency.

Estimated cost (October 2000) is \$182,800,000 (which includes an allowance for estimated inflation through the

construction period) of which \$78,500,000 is Federal and \$104,300,000 is non-Federal including reimbursement, see Local cooperation paragraph. Existing project was adopted by Water Resources Development Act of 1986, Energy and Water Development Appropriation Act of 1990 which directed the Secretary of the Army to construct the project notwithstanding Sec. 902 of the Water Resources Development Act of 1986 regarding project cost limitations, and Energy and Water Development Appropriations Act of 1992 which directed the Secretary of the Army to modify and construct the project in accordance with the January 1991 GDM; it is consistent with the Guadalupe River Park plan requested by the local sponsor and with cost sharing policy.

**Local cooperation.** Local interests, through a public body legally authorized and financially capable, must give assurances they will furnish lands, easements, rights-of-way, and dredged material disposal areas, which are partially offset by a credit (\$5,701,000) allowed for prior work (Sec. 104, Water Resources Development Act of 1986); credit was approved by the Assistant Secretary of the Army; modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of the project; pay 5 percent of the costs allocated to flood control; and bear all costs of operation, maintenance, and replacement of flood control facilities. Federal reimbursement will be made to non-Federal sponsor for one-half of non-Federal costs allocated to flood control in excess of Federal costs. Local interests have agreed to make all required payments concurrently with project construction.

On June 2, 1989, the local sponsor, the Santa Clara Valley Water District, expressed intent to provide all needed cost sharing funds. On September 21, 1990, the San Jose Redevelopment Agency requested modification of project to include recreation facilities and confirmed that they intend to participate as local sponsor for recreation. Local Cooperation Agreements for both flood control and recreation were executed March 30, 1992.

**Operations and results during fiscal year.** Construction contract No. 2 (Hedding Street to Coleman Avenue), was completed with fiscal year cost of \$257,000 (Interstate 880 to Hedding Street). Fiscal year mitigation costs included Early Plant collection for Contract 2 (Hedding Street to Coleman Avenue) of

\$15,000 and River Street Historic Salvage and Demolition \$560,000.

**Historical summary.** Final General Design Memorandum (GDM) reflecting locally preferred plan, was approved by the Assistant Secretary of the Army on March 26, 1992, with comments. Revision of GDM to address comments was completed in July 1993. Local Cooperation Agreements for both flood control and recreation were executed March 30, 1992. Construction contract No. 1 for channel improvement (Highway 880 to Hedding Street) was awarded August 10, 1992; and was essentially completed and transferred to local interests for maintenance and operation on August 11, 1994. Construction contract No. 2 (Hedding Street to Coleman Avenue) was awarded July 8, 1994, and was essentially completed and transferred to local interests for maintenance and operation on October 25, 1996.

## 15. HIDDEN DAM-HENSLEY LAKE, FRESNO RIVER, CA

**Location.** On Fresno River about 50 miles above its mouth and about 15 miles northeast of Madera, CA (See Geological Survey quadrangles for area.)

**Existing project.** Provides for construction of a 163-foot high earthfill dam to create a reservoir with gross storage capacity of 90,000 acre-feet for flood control, irrigation, recreation and other purposes. In conjunction with the dam, the project provides for about 13 miles of downstream levee and channel improvements on Fresno River immediately upstream of Chowchilla Canal crossing to accommodate project design flow of 5,000 cubic feet per second. Operation and maintenance of dam and reservoir is the responsibility of the Federal Government. Total first cost for existing project is \$31,785,426, of which \$30,555,426 is Federal cost, including \$3,564,168 for basic recreation facilities, and estimated \$1,230,000 non-Federal cost for lands and damages including relocations for downstream levee and channel improvements. Local interests have contracted with the Bureau of Reclamation for irrigation service. For future non-Federal reimbursement, see Local cooperation paragraph. Local interests have also, over a period of years, expended about \$300,000 for construction of low levees and clearing downstream channels to provide some local flood protection in the project area. This

work is inadequate during major floods. Existing project was adopted by 1962 Flood Control Act (S. Doc. 37, 87th Cong., 1st sess., contains latest published map). Lake created by Hidden Reservoir project on Fresno River was designated "Hensley Lake" by Public Law 93-603.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** New work. None. Maintenance: Maintenance and operation activities were continued. Runoff of Fresno River below Hidden Dam was above normal for the year. Maximum storage of 37,826 acre-feet occurred April 30, 2001. Maximum hourly inflow to the reservoir was 1,585 cubic feet per second on March 5, 2001. Maximum release of 195 cubic feet per second on July 25, 2001, was above maximum permissible flood release. During the year, 46,439 acre-feet was released for irrigation and other purposes and 0 acre-feet was released for flood control.

**Historical summary.** Construction began in July 1971 and was completed in January 1979. Dam closure was in March 1975; dam was completed November 1975. Instrumentation was completed in January 1976. Downstream channel improvement, Fresno River, was completed April 1976. Recreation areas: Phase I was completed in March 1976; Phase II was completed in June 1978. Residences, administration building, grounds, and utilities contract was completed in February 1978. Landscaping was completed in December 1978 and erosion control was completed in January 1979. Project was completed in September 1980. Final land audit was approved February 5, 1980. Dam safety assurance studies were initiated in FY 1980. Piezometer installation was completed in September 1982. Solar heating was installed at County relinquished all administration of recreation and development and maintenance of public use areas at the recreation areas in FY 1984.

## 16. ISABELLA LAKE, KERN RIVER, CA

**Location.** About 35 miles northeast of city of Bakersfield, CA, near confluence of north and south forks of Kern River; auxiliary dam is about one-half mile east of main dam. (See Geological Survey quadrangles of area.) In 1991, Isabella Lake and 16,000 acres of surrounding land was transferred to the Forest

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Service in exchange for about 2,500 acres of Forest Service land near Pine Flat Lake.

**Existing project.** For description of completed improvement and authorizing act, see Annual Report for 1967. Federal cost for new work is \$22,027,452. For future non-Federal reimbursement see Local cooperation and Licenses paragraphs. Federal cost funded from Code 710 appropriations is \$2,199,085. Operation and maintenance of dam and reservoir is Federal responsibility.

**Local cooperation.** California officially adopted project by chapter 1514 of statutes of 1945, State of California. Local interests, represented by North Kern, Buena Vista, and Tulare Lake Basin Water Storage Districts and La Hacienda Water District, were required to reimburse the Federal Government the portion of first cost and annual operation and maintenance costs allocated to irrigation functions of project. These costs, based on a cost allocation study completed in December 1955, are \$4,573,000 of first cost and 21.7 percent of annual operation and maintenance cost. For the years 1956 through 1964, an interim contract between the Bureau of Reclamation and local water users provided for storage and payment of irrigation water. Under provisions of this interim contract, local interests paid \$1,936,229 through December 31, 1964. A long-term contract between the Bureau and local water users was executed October 23, 1964. Balance due on allocated first cost of \$4,573,000 was paid by the water users on March 31, 1965. Kern County assumed administration of recreation and development and maintenance of public use areas at project in accordance with a 25-year license February 15, 1955. The agreement with Kern County provided for joint operation and development by the Corps and Kern County including permits granted to concessionaires by the county to provide certain services. As of September 30, 1971, Kern project. A State law permitting the Department of Boating and Waterways (known as the Department of Navigation and Ocean Development prior to January 1979) to participate in inland water development with Federal agencies was signed by the Governor on August 11, 1972. Isabella Lake and surrounding land, 16,000 acres around the lake currently being used for park and recreation purposes, was turned over to the Forest Service by the Corps on May 15, 1991, in exchange for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake. This was accomplished by using a memorandum of understanding (MOU) between the Secretary of the

Army and the Secretary of Agriculture (Forest Service). The MOU requires an exchange of land between departments. Three Corps maintenance employees, under supervision of the Success Lake park manager, will stay at Isabella to operate the dam for flood control and water conservation purposes. Authority for new concessionaire operating permits to be issued, as well as those previously granted by the Corps, will be transferred to the Forest Service.

Total cost to date of present recreation facilities developed by the county and the marina concessionaires is about \$965,000; \$235,000 of this was a grant from the California Wildlife Conservation Board and about \$534,000 is investment by marina concessionaires.

**Licenses.** In accordance with Federal Power Commission Docket No. E-6578, issued April 1, 1963, payment of \$377,426 was made to the Federal Government by Pacific Gas and Electric Co. (\$108,352) and Southern California Edison Co. (\$269,074) for headwater benefits to downstream existing plants from Isabella Dam to cover benefits from April 15, 1954, to December 31, 1962. Between 1962 and 1982, the power companies have in the aggregate made annual payments of \$44,650 for headwater benefits. That amount was to be paid each year until changes in operation, development, or costs indicated some modification to be advisable. Federal Power Commission Docket No. E-6578 was revised by Docket No. HB07-75-4-000 (order issued July 11, 1983 under 24 FERC, paragraph 62052) which modified cumulative use charges after 1974, effective retroactively. Such charges will now vary each year. An adjustment (years 1974 through 1984) was included in 1984 payment of \$244,790. The 1985 payment was \$52,747; 1986 payment was \$51,905. No payment was received in 1987. The 1988 payment was \$58,187. No payment was received in 1989. Two payments (\$60,894 and \$55,443) were received in 1990; \$60,983 was received in 1991; \$65,975 in October 1991 (FY 1992) \$77,577 in October 1992 (FY 1993), and \$62,231 in October 1993 (FY 1994). Cumulative use charges collected by the Federal Power Commission (known as the Federal Energy Regulatory Commission since January 9, 1978) and returned to the U. S. Treasury through period ending September 30, 1995, amounted to \$2,150,458.

**Operations and results during fiscal year.** New work, regular funds: None. Code 710 funds: None. Maintenance: Maintenance and operation continued.

Structures were maintained in good condition. Runoff of Kern River above Isabella Dam was above normal for the year. Maximum storage of 244,905 acre-feet occurred June 3, 2001. Maximum hourly inflow to the reservoir was 3,784 cubic feet per second on May 12, 2001 and maximum outflow of 1,489 cubic feet per second occurred June 19, 2001. During the year, 370,815 acre-feet was released for irrigation and 0 acre-feet was released for flood control.

**Historical summary.** Construction began in March 1948 and was completed in June 1968. Main dam, Borel Canal outlet works and appurtenances, and auxiliary dam were completed in April 1953. Storage impoundment began December 1952. Piezometer was installed in August 1982. Project is operating to provide flood protection and irrigation benefits for which it was designed. Recreation facilities were provided by Code 710 funds. Dam safety assurance studies were initiated in FY 1979. A cultural resources survey was completed in FY 1984. On May 15, 1991, Isabella Lake and surrounding land, 16,000 acres around the lake currently being used for park and recreational purposes, was turned over to the Forest Service by the Corps in exchange for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake. A memorandum of understanding (MOU) between the Secretary of the Army and the Secretary of Agriculture (Forest Service) was used. The MOU requires an exchange of land between departments. Three Corps maintenance employees, under supervision of the Success Lake park manager, will stay at Isabella to operate the dam for flood control and water conservation purposes.

## 17. KAWEAH AND TULE RIVERS, INCLUDING TERMINUS DAM AND SUCCESS LAKE, CA

**Location.** Terminus Dam is on Kaweah River about 20 miles east of Visalia, CA. Success Lake is on Tule River about 5 miles east of Porterville, CA. (See Geological Survey quadrangles of area.)

**Existing project.** Terminus Dam: For description of completed improvement and authorizing act, see Annual Report for 1975. Federal cost of new work is \$19,302,957, including \$242,605 for basic recreation facilities and excluding spreading works constructed by local interests at an estimated (July 1957) cost of about

\$750,000. Spreading works portion of project has been deauthorized. The 90-day Congressional project review period, required by sec. 12, Public Law 93-251, as amended, ended August 5, 1977, and resulted in deauthorization of that portion of project. Federal cost of recreation facilities funded from Code 710 appropriations is \$700,004. Success Lake: For description of completion improvement and authorizing act, see Annual Report for 1975. Federal cost of new work for Success Lake is \$14,247,221, including \$253,697 for basic recreation facilities. Federal cost of recreation facilities funded from Code 710 appropriations is \$747,048. For future non-Federal reimbursements, see Local cooperation paragraph. Operation and maintenance of reservoirs is Federal responsibility.

**Local cooperation.** California officially adopted projects by chapter 1514 of statutes of 1945, State of California. Local interests for Terminus Dam are represented by Kaweah Delta Water Conservation District. Local interests for Success Lake are considered to be represented by the Vandalia, Porterville, and Lower Tule River Irrigation Districts, the Tulare Lake Basin Water Storage District, and Pioneer Water Co., which represent over 90 percent of irrigated land and water-right holders along Tule River below damsite. Local interests must reimburse the Federal Government the portion of first cost and annual operation and maintenance costs allocated to irrigation functions of projects. These costs are estimated at 14.1 percent of first and annual costs for Terminus and 9.5 percent of first and annual costs for Success. Local interests for Terminus stated they will continue to operate and maintain spreading works and downstream channel systems to provide required capacity for disposal of floodwaters. Local interests for Success stated they will continue to maintain downstream channel systems to provide required capacity for disposal of floodwaters. Repayment contracts between the Bureau of Reclamation and local water users for irrigation supply from Terminus and Success reservoirs were executed January 11, 1965, and April 30, 1965, respectively. Reservoirs are being operated for irrigation storage as well as flood control and incidental recreation use. Tulare County acquired water for recreation pools at the projects. Local interests paid the following total amounts for irrigation services from the reservoirs through December 31, 2000: Terminus, \$2,496,960 and Success, \$1,241,906. Tulare County was granted a 25-year license for planning, development, and management of

public recreation areas at Success, July 10, 1960, and at Terminus, June 5, 1961. Basic public-use facilities constructed by Corps at the Success reservoir were transferred to jurisdiction of Tulare County on January 18, 1962; facilities at Terminus were transferred June 20, 1962. In March 1967, an amendment to the license agreements was approved by the Assistant Secretary of the Army. Under these amended licenses, Tulare County retained administration of only specified land areas and operation and maintenance of recreation facilities in these areas. In addition, they continued their program of water safety, boat inspection, and law enforcement at both reservoirs. The Corps took over the administration of the remainder of the project land areas and the operation and maintenance of recreation facilities in these areas. Calif. Department of Fish and Game expended funds to improve fishery resources of the Terminus reservoir. As of April 1, 1972, Tulare County relinquished all planning, development, and management of public recreation areas at Terminus Dam. Tulare County by expenditure of county funds and by a lease to a marina concessionaire has aided in the development of recreation facilities at an estimated cost of \$199,000. Calif. Department of Fish and Game expended funds in conjunction with Tulare Sportsman's Council and developed a habitat for upland game birds at Success Lake. As of April 1, 1972, Tulare County relinquished all planning, development, and management of public recreation areas at Success Lake, except for the Bartlett Park recreation area. Tulare County has aided in development of recreation facilities. Total cost to date of present recreation facilities developed by the county (\$360,000) and the marina concessionaires (\$373,000) is about \$733,000.

**Operations and results during fiscal year.** New work: Terminus Dam, regular funds: None. Code 710 funds: None

Success Lake, regular funds: None. Code 710 funds: None.

Maintenance: Terminus Dam: Maintenance and operation continued. Dam safety assurance studies were continued at a fiscal year cost of \$118,300. Structures were maintained in serviceable condition. Runoff of Kaweah River above Terminus Dam was above normal for the year. Maximum storage of 143,288 acre-feet occurred on May 21, 2001. Maximum hourly inflow to the reservoir on May 12, 2001, was about 2,949 cubic feet per second. Maximum outflow of 1,810 cubic feet per second occurred May 23, 2001. Irrigation and spreading releases totaled 236,317 acre-feet. Releases for

flood control totaled 23,000 acre-feet. Success Lake: Maintenance and operation continued. Relief wells were placed at a fiscal year cost of \$120,000. Structures were maintained in serviceable condition. Runoff of Tule River above Success Dam was above normal during the year. Maximum storage of 47,904 acre-feet occurred on May 18, 2001. Maximum hourly inflow to the reservoir was 653 cubic feet per second on April 27, 2001, and maximum outflow of 635 feet per second occurred on July 23, 2001. Irrigation and spreading releases amounted to 55,250 acre-feet. Releases for flood control amounted to 0 acre-feet.

**Historical summary.** Terminus Dam: Construction of project began in July 1957 and was completed in June 1968. Final land audit was approved on April 20, 1987. Construction of main dam and appurtenances, initiated in February 1959, was completed in June 1962. Dam has been operating since November 1961 to provide flood protection for which it was designed; conservation impoundment was commenced May 1962. Appurtenances are in good condition. Recreation facilities were provided by Code 710 funds. Dam safety assurance studies were initiated in FY 1979 and completed in FY 1989. Piezometer installation and a cultural resources survey were completed in FY 1984. Success Lake: Construction of project began in November 1956, was completed in June 1968, and final audit of historical land record was approved December 17, 1979. Construction of main dam and appurtenances, initiated in October 1958, was completed in May 1961. Dam has been operating since October 1960 to provide flood protection for which it was designed; conservation impoundment was commenced March 1962. Recreation facilities were survey was completed in FY 1984.

## 18. LITTLE DELL LAKE, UT

**Location.** On Dell Creek, a tributary of Parleys Creek, about 8 miles east of Salt Lake City upstream of Mountain Dell Reservoir in Salt Lake County, UT.

**Existing Project.** Project providing for construction of a dam about 253 feet high to create a reservoir with a gross capacity of 30,000 acre-feet for flood control, municipal and industrial water supply, recreation and fish and wildlife was authorized by the 1968 Flood Control Act (S. Doc. 53, 90th Cong., 1st sess., contains published map) as modified by sec. 170, Water Resources Development Act of 1976, Public Law

94-587, October 22, 1976. Facility would be operated in conjunction with existing downstream 3,200 acre-foot Mountain Dell Reservoir on Parleys Creek for flood control and water supply.

Authorized project had been reexamined and scaled down to reflect local interests' ability to pay. Recreation was deferred as of May 30, 1986, and Emigration Creek Diversion was deleted and placed in an inactive status. Recreation was reactivated in 1995 and the Recreation DM approved in 1996. The project includes an earthfill dam 224 feet high, a 20,500 acre-foot reservoir, and 10,035 feet of pipeline to divert water from Parleys Creek. Estimated project cost (September 2000) is \$64,700,000 (includes an allowance for estimated inflation through the construction period) of which \$40,850,000 is Federal and \$23,850,000 is non-Federal for lands and damages and includes a cash contribution of \$17,150,000. Project is included in FY 1985 Supplemental Appropriations Act (Public Law 99-88) August 15, 1985.

**Local cooperation.** Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project; pay all costs allocated to municipal and industrial water supply; pay 14 percent of costs allocated to flood control to bring total non-Federal share of flood control costs to 25 percent, pay 50% of joint recreation costs, and bear all costs of operation, maintenance, and replacement of flood control facilities.

**Operations and results during fiscal year.** Mitigation establishment continued.

**Historical summary.** A Local Cooperation Agreement (Sec. 221) was executed June 10, 1986. Construction was initiated in April 1988. Construction of core trench and test fill was completed in February 1989. Main dam and appurtenances contract was awarded May 12, 1989 and completed in September 1993. Project was transferred to the local sponsor for maintenance and operation on March 26, 1993. Dam was dedicated on August 5, 1993.

## 19. MARTIS CREEK LAKE, MARTIS CREEK, NV AND CA

**Location.** Reservoir is on Martis Creek a tributary of Truckee River, near Truckee, CA; intermittent channel improvements are on Truckee River in Reno, NV. (See Geological Survey quadrangles for areas.)

**Existing project.** For description of completed improvement and authorizing act, see Annual Report for 1975. Federal cost for project was \$8,503,789 including \$289,506 for basic recreation facilities. Federal cost of recreation facilities funded from Code 710 appropriations was \$1,200. Construction of recreation facilities under Code 710 was determined to be infeasible. Operation and maintenance of reservoir is Federal responsibility.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** New work: None. Maintenance: Maintenance and operation of project, including recreation facilities, was continued. Structures were maintained in serviceable condition. Runoff above Martis Creek Dam was above normal for the year. Maximum storage of 815 acre-feet occurred on March 8, 2001. Maximum inflow to the reservoir was 59 cubic feet per second on March 8, 2001, and maximum outflow of 30 cubic feet per second occurred March 8, 2001. During the year, 7051 acre-feet was released for irrigation purposes. Releases for flood control amounted to 0 acre-feet. Piezometers were replaced at a fiscal year cost of \$27,000.

**Historical summary.** Project construction began in August 1967; dam closure was in October 1971; dam completed in August 1972; basic recreation facilities were completed in December 1972; and project was completed in June 1974. Recreation facilities under Code 710 funding were considered infeasible. Dam safety assurance studies were initiated in FY 1981.

## 20. MERCED COUNTY STREAMS, CA

**Location.** In vicinity of city of Merced, CA, on streams draining from Mariposa County foothills of the Sierra Nevada into Merced County. Streams lie easterly of and drain into the San Joaquin River between Chowchilla River on the south and Merced River on the north. Drainage area represents about 1,000 square miles; nearly 700 square miles of foothills and mountains in Mariposa County and about 300 square miles of flood plain in Merced County. (See Geological

Survey quadrangles for area.)

**Existing project.** Project is a modification of Merced County Stream Group, Calif., Improvement No. 18, authorized by 1944 Flood Control Act (H. Doc. 473, 78th Cong., 2d sess.) and completed in FY 1957. Existing project provides for construction of one new reservoir Haystack Mountain and enlargement of four existing reservoirs Burns, Bear, Owens, and Mariposa, providing a total capacity of 126,700 acre-feet for multipurpose storage; and about 52 miles of levee and channel improvements in lower reaches of Bear, Black Rascal, Mariposa, and Deadman Creeks, thereby tying the existing project channels into Eastside Bypass of San Joaquin River flood control system. Haystack Mountain, Bear, Burns, and Owens projects would provide flood control only; Castle and Burns projects, flood control and recreation; Marguerite project, flood control and irrigation; and Mariposa project, all three purposes. Existing project was adopted by 1970 Flood Control Act.

Current plan of improvement would defer enlargement of existing Mariposa reservoir and the irrigation function associated with the latter two facilities, enlargement of existing Owens reservoir and about 32 miles of levee and channel improvement on Owens, Mariposa, and Deadman-Dutchman Creeks. Estimated total project cost (October 1996) is \$132,700,000 (includes an allowance for estimated inflation through the construction period), of which \$91,800,000 is Federal and \$40,900,000 is non-Federal (which includes a \$6,855,000 cash contribution).

**Local cooperation.** Local interests are required to provide lands, easements, and rights-of-way and dredged material disposal areas; modify or relocate buildings, utilities, roads, and other facilities, where necessary in the construction of the project; pay one-half of the separable and joint costs allocated to recreation, presently estimated at \$282,000, of which \$240,000 is a cash contribution and \$42,000 is for lands; and bear all costs of operation, maintenance, and replacement of flood control facilities. Total non-Federal share of Castle Dam first cost is \$5,230,000 and includes cash contribution of \$595,000.

The California Reclamation Board and the City of Merced are the local sponsors of the authorized project. The Reclamation Board will serve as sole sponsor for the Castle Dam Unit. Merced County Board of Supervisors reaffirmed their support for the project by letter of April

4, 1986. City of Merced by letter of March 13, 1986, reaffirmed its support for and intent to furnish assurances for recreation aspects of the project. California Reclamation Board reaffirmed its support for total project by letter of April 9, 1986. A Local Cooperation Agreement (Sec. 221) was executed for Castle Dam Unit on June 27, 1986. State of California legislation (AB3369) was enacted on September 14, 1986 which enabled the Reclamation Board to financially participate in the project. A new Local Cooperation Agreement (LCA) was signed by the Assistant Secretary of the Army November 30, 1988, in accordance with the Water Resources Development Act of 1986. The California Reclamation Board, the Merced County Board of Supervisors and the city of Merced have indicated support for balance of the project by letters of intent dated August 29, 1991 and August 20, 1991, respectively. This support was again reaffirmed in letters of support as provided by the California Reclamation Board on January 9, 1996.

**Operations and results during fiscal year.** Engineering activities continued for Bear Creek Dam Unit. Castle was transferred to sponsor for maintenance and operation in April 1995.

**Historical summary.** Castle Dam multicomponent construction contract was awarded February 26, 1991, and construction was completed in March 1993. Castle Dam check structure contract was initiated in April 1993 and completed in January 1994. Castle Dam was transferred to the sponsor on April 12, 1995, and accepted by the sponsor in FY 2000.

## 21. MERCED COUNTY STREAM GROUP, CA

**Location.** Reservoirs and channel improvements are on Bear, Burns, Mariposa, and Owens Creeks, in foothills of Sierra Nevada about 15 to 20 miles east of city of Merced, CA. (See Geological Survey Haystack Mountain quadrangle for Burns and Indian Gulch quadrangle for Bear, Owens, and Mariposa areas.)

**Existing project.** For description of completed improvements and authorizing act, see Annual Report for 1962. Improvements consist of reservoirs at Mariposa, Owens, Burns and Bear Creeks and diversions from Black Rascal Creek to Bear Creek and

from Creek to Mariposa Creek. Total first cost for project was \$3,899,259, of which \$2,751,259 was Federal and \$1,148,000 non-Federal for lands including relocations and channel improvement.

**Local cooperation.** Fully complied with.

**Operations and results during fiscal year.** Maintenance: Ordinary maintenance and operation of the four completed reservoirs continued. Structures were maintained in a serviceable condition. Runoff from drainage areas below Merced County stream group reservoirs was above normal for the year. See Table 35-K for maximum inflow storage and outflow for the projects. Outflows were less than channel capacity rates in the project streams.

**Historical summary.** Construction was initiated March 1948, with construction of Mariposa project, which was completed in November 1948. Construction of Owens project, initiated in March, was completed in October 1949; Burns project, initiated in July 1949, was completed in January 1950; and Bear project initiated in April, was completed in December 1954. Black Rascal and Owens Creek diversion channels and stream-gaging stations were completed in April 1956. Local interests completed channel enlargement and restoration of channel capacities of Miles, Burns, Owens, and Mariposa Creeks in 1956 at their expense. Improvement of Bear Creek and Black Rascal Slough, below their confluence, was deferred pending possible improvements downstream, outside limits of project.

## 22. NAPA RIVER, CA

**Location.** The project is located in the city and county of Napa, California. The Napa River drainage basin, comprising 426 square miles, is just north of San Pablo Bay and approximately 40 miles northeast of San Francisco, California.

**Existing project.** A major portion of the presently developed area of the city is located in a high flood hazard area and is subject to flooding. The project consists of modifications to provide the project area with 100-year level of flood protection from Napa River and Napa Creek. Channel modifications include overbank excavation, vertical walls, floodwalls, levees, bridges, pumping stations and flowage easements. The project also includes recreation trails and incidental ecosystem

restoration. Current total project cost estimate is \$182,000,000 and is to be cost shared 50% Federal and 50% local sponsor.

**Local cooperation.** In March 1998, the Napa County electorate passed "Measure A" to fund the non-Federal share of the project. In February 2000, Napa County Flood Control and Water Conservation District, the local sponsor, signed a Project Cooperation Agreement for the project. The sponsor will furnish lands, easements, rights of way and borrow and excavated or dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges) and other facilities where necessary for the construction of the project; provide 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement for flood control facilities; and pay one-half of the separable costs allocated to recreation (except recreational navigation) and bear all costs of operation, maintenance, repair, rehabilitation and replacement or recreation facilities.

**Operations during fiscal year.** The PED phase of the project was completed in fiscal year 2000 at a total cost of \$15,587,000. Construction Contract 1A, estimated at \$2,550,000, was completed in October 2000. Demolition contract was awarded in December 2001. Planning, engineering and design, construction management and non-Federal lands certification efforts continue. Fiscal Year construction costs total \$3,692,452.

**Historical summary.** The project was authorized by the Flood Control Act of 1965 for flood control and recreation and was modified by the Flood Control Act of 1976 to include modifications to Napa Creek. The project was placed in inactive status in 1978. Following severe flooding in February 1986, the sponsor requested reactivation of the project. Funds to resume pre-construction engineering and design (PED) were appropriated in fiscal year 1989. A revised Final SGDM was completed in October 1998 and approved in May 1999. The ROD for the revised SEIS/EIR was issued in June 1999. Project was approved as new start construction for fiscal year 2000.

## 23. PAJARO RIVER, CA

**Location.** In the Uvas-Carnadero and Llagas Creeks watersheds of the upper Pajaro River Basin in south



Santa Clara County in vicinity of the city of Gilroy about 75 miles south of San Francisco, CA.

**Existing project.** See Annual Report for 1996, pg. 35-15.

**Local cooperation.** Fully complied with. Local Cooperation Agreement (LCA) for flood control was executed with the Santa Clara Valley Water District on June 25, 1987, and LCA for recreation was executed with the City of Gilroy on July 27, 1987.

**Operations and results during fiscal year.** The project is fiscally completed.

**Historical summary.** Responsibility for remaining portions of advance engineering and design, plans and specifications, and construction was transferred to Sacramento District in April 1982. Construction began in October 1987. Construction for the first contract (levee work and bike path upstream of Thomas Road Bridge), second contract (levee work and hiking trails), and third and final contract (landscaping) has been transferred to local interests for operation and maintenance. Total reimbursement of \$5,583,369 has been made to the local sponsor.

## 24. PINE FLAT LAKE AND KINGS RIVER, CA

**Location.** Reservoir is on Kings River, about 25 miles east of Fresno, CA, and channel improvements are on Kings River downstream from Lemoore weir, about 25 miles south of Fresno. (See Geological Survey quadrangles of area.) Project also includes 2,500 acres of Forest Service recreation land near Pine Flat Lake.

**Existing project.** Improvement is a unit in comprehensive plan for flood control and other related purposes for Sacramento-San Joaquin Basins. Project consists of a 429-foot high concrete gravity dam, including a gated overflow section with a maximum discharge capacity of 391,000 cubic feet per second, creating a reservoir with gross storage capacity of 1 million acre-feet, for flood control, irrigation, and related purposes. Outlet provisions for future power development are included in dam, but Federal construction of power-generating facilities is not authorized. Improvement also includes levee and channel work on Kings River and its tributaries on valley floor

about 25 miles south of Fresno. Channel improvement work will enlarge channel capacities and regulate flows in lower branches of the Kings River. There are nine public-use and recreation areas: One maintained by the Corps, four by the Forest Service, three jointly by the Corps and concession, and one by Fresno County. Also, five boat access-only areas are maintained by the Corps on the south side of the reservoir. Project cost is \$42,072,330, of which \$41,502,330 is Federal (including \$13,700 for basic recreation facilities) and \$570,000 non-Federal for rights-of-way for downstream channel improvements. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost of recreation facilities for Pine Flat Lake, funded from Code 710 appropriations is \$1,595,100 exclusive of recreation facilities previously provided at a cost of \$13,700. In addition, Federal cost of recreation facilities for Pine Flat Lake, funded from Public Works Acceleration Executive Act of 1962 appropriations, was \$239,235 (July 1963). Operation and maintenance of dam and reservoir is Federal responsibility. Existing project was adopted by 1944 Flood Control Act (H. Doc. 630, 76th Cong., 3d sess., contains latest published map).

**Local cooperation.** Local interests must reimburse the Federal Government for first costs allocated to irrigation functions of reservoir portion of project in accordance with reclamation law. Under provision of War Department Civil Appropriations Act of 1947, the Secretary of War, with concurrence of the Secretary of the Interior, determined allocation of cost to irrigation should be set at an amount not to exceed \$14,250,000. In addition, local interests must pay 37.4 percent of annual maintenance, operation, and replacement costs of dam and reservoir allocated to irrigation function. Repayment contracts between the Bureau of Reclamation and the local water users for the irrigation use of the reservoir were executed December 23, 1963. The Bureau is administering the contracts in accordance with reclamation law as amended by the Reclamation Reform Act of October 12, 1982. That act generally exempts the limitations under the early reclamation laws as being applicable to projects constructed by the Corps with two exceptions; however, all existing contracts to share construction and maintenance costs remain in effect. Prior to execution of the final contracts, the Bureau provided conservation water to local interests under an interim contract. Irrigation interests paid \$14,731,978 for irrigation services through December 31, 2001. With respect to the downstream channel

improvements, sec. 3, Flood Control Act of June 22, 1936, applies. King River Conservation District represents local interests; assurances were accepted November 20, 1959. Local interests have furnished all requirements for construction rights-of-way for construction of channel improvements required to date. Three concessionaires each at Lakeridge Marina (Deer Creek), Pine Flat Marina and Trimmer Marina provided public-use facilities in accordance with lease agreements with the Secretary of the Army. Estimated cost to date of facilities installed by these concessionaires is \$1,727,000. Fresno County developed public-use facilities on an 85-acre tract immediately downstream from dam for picnicking, camping, swimming, and playground activities, at an estimated cost of \$476,000 under provisions of a license agreement. The U.S. Forest Service developed and operates a picnic area at the upper end of reservoir. Cost of site development is about \$37,500. Installation of a hydroelectric powerplant, located at the downstream toe of the Corps Pine Flat Dam, was completed in January 1984 by Kings River Conservation District. Project consists of an outdoor-type powerhouse containing three generating units with capacities of 55 megawatts each for a total of 165 megawatts. Conservation District would make use of the three existing 13.5-foot diameter penstocks that were installed in Pine Flat Dam when constructed in 1954.

**Licenses.** License No. 1988, effective April 1, 1955, was issued by Federal Power Commission to Pacific Gas and Electric Co. for hydroelectric power development of North Fork Kings River by the company upstream from the Pine Flat reservoir. Under interim Contract No. DA-04-167-eng-1182 with the Department of the Army, Pacific Gas and Electric Co. paid for storage of power water in the Pine Flat reservoir May 15, 1954, through March 31, 1955. Current Contract No. DA-04-167-eng-1328 with the Department of the Army provides for storage of power water at the rate of 0.1375 per acre-foot; the contract covers April 1, 1955, through March 31, 2005. By an agreement of January 1972, supplementing the December 1954 contract, Pacific Gas and Electric Co. transferred ownership of most of its Kings River system water to the Kings River Water Association. Accordingly, no further significant storage service to Pacific Gas and Electric Co. by the reservoir at Pine Flat is anticipated. Total payment under these contracts through June 30, 1972, (last year of payment), amounts to \$2,478,798; these funds were paid to Sacramento District and deposited for return to the Treasury. License No. 2741, effective September 25,

1979, was issued by the Federal Energy Regulatory Commission to the Kings River Conservation District for hydropower development at the downstream toe of the Corps Pine Flat Dam. Payment to the Department of the Army for construction and installation of the penstocks in the amount of \$1,044,685 was made to Sacramento District and deposited for return to the Treasury in November 1985.

**Operations and results during fiscal year.** New work, regular funds: None. Code 710 funds: None. Maintenance: Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff of Kings River above Pine Flat Dam was above normal for the year. Maximum storage of 861,039 acre-feet occurred on June 13, 2001. Maximum hourly inflow to the reservoir was 9,981 cubic feet per second on May 12, 2001, and maximum outflow of 7,428 cubic feet per second occurred on June 16, 2001. During the year, 1,081,246 acre-feet was released for irrigation and spreading. There was no release for flood control.

**Historical summary.** Construction began in April 1947 and project, including channel improvement, was completed in September 1977. Main dam was initiated in January 1950, completed in June 1954, and has been operating since February 1954 to provide flood protection for which it was designed. Total of 35.2 miles of new and reconstructed levees and 13.2 miles of channel clearing have been transferred to the Kings River Conservation District for maintenance. Recreation facilities for various recreation areas under Code 710 appropriation are complete. Completed preliminary design and cost estimates for Pine Flat fish barrier were reviewed by the State, but the State was unable to provide necessary assurances of local cooperation. Dam safety assurance studies were initiated in FY 1982. A cultural resources survey was completed in FY 1984. On May 15, 1991, Pine Flat Lake acquired additional acreage as part of a memorandum of understanding (MOU) between the Secretary of the Army and Secretary of Agriculture (Forest Service). The Corps exchanged Isabella Lake and the 16,000 acres around that lake currently being used for park and recreational purposes for approximately 2,500 acres of Forest Service recreation land near Pine Flat Lake.

## **25. REDBANK AND FANCHER CREEKS, CA**

**Location.** Northeast and adjacent to the Fresno-Clovis Metropolitan Area in Fresno County about 170 miles southeast of Sacramento, CA.

**Existing project.** Provides for flood control detention basins on Redbank Creek, Pup Creek, and Alluvial Drain; construction of a dam 45.5 feet high to create a reservoir with gross capacity of 10,300 acre-feet for flood control on Fancher Creek; and enlargement of Big Dry Creek project to provide increased flood protection and recreational development. Since the local sponsor does not support recreational development at this time, the recreation feature of the project is considered to be inactive. The Authorization Act states "measures determined appropriate by the Secretary of the Army to minimize benefits to groundwater recharge" shall be included in the project. Estimated cost (October 1997) for existing project is \$73,710,000 (includes an allowance for estimated inflation through the construction period), of which \$47,460,000 is Federal and \$26,250,000 is non-Federal (which includes \$3,670,000 cash contribution). For future non-Federal reimbursement, see Local cooperation paragraph. Existing project was adopted by Sec. 401, Water Resources Development Act of 1986, Public Law 99-662, November 17, 1986. (HD 98-147, 98th Cong., 2d sess., contains published map.)

**Local cooperation.** Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges) and other facilities where necessary in construction of the project; pay 5 percent of cost allocated to flood control to bring total non-Federal share of flood control costs to 25 percent, of which \$3,680,000 is cash contribution, and bear all costs of operation, maintenance and replacement of flood control facilities. Local interests have agreed to make all required payments concurrently with project construction.

**Operations and results during fiscal year.** Engineering activities, real estate crediting, and project auditing were continued.

**Historical summary.** Local Cooperation Agreement was executed on August 1, 1987. Project construction was begun in September 1987 with initiation of archaeological work on Cultural Resources Preservation.

Construction contract for Dry Creek Crossing was completed and transferred to local interests for operation and maintenance on January 10, 1989. Construction at Redbank Creek Detention Basin was completed and transferred to local interests for operation and maintenance on August 23, 1990. Construction contract for Fancher Creek Dam awarded May 23, 1990, was completed and transferred to local interests for operation and maintenance on March 13, 1992. Construction contract for Big Dry Dam, Pup and Alluvial detention basins was awarded March 18, 1992. Big Dry Creek Dam and Pup Creek Detention Basin were transferred to local interests on June 22, 1994. Last piece of completed work, Alluvial Drain Detention Basin, was transferred to local interests for maintenance and operation on July 18, 1994.

## **26. RUSSIAN RIVER BASIN, CA**

Reported on by the San Francisco District.

## **27. SACRAMENTO RIVER AND TRIBUTARIES, CA, FROM COLLINSVILLE TO SHASTA DAM**

**Location.** Rises in Trinity Mountains in north-central California, flows generally southerly about 374 miles and empties into Suisun Bay, an arm of San Francisco Bay at Collinsville, CA. Works covered by this improvement are on Sacramento River and tributaries from Collinsville to Shasta Dam, about mile 312. Drainage area above Rio Vista is 26,500 square miles (See Geological Survey quadrangles of area for Sacramento River and Upper Butte Basin; Flournoy and Fruto quadrangles for Black Butte Lake; and Tuscan Buttes, Tehama, Redding, and Hooker quadrangles for Table Mountain Lake.)

**Existing project.** Improvement of Sacramento River and tributaries, from Collinsville to Shasta Dam was authorized as a unit of a comprehensive plan for flood control and other related purposes in Sacramento River Basin. (a) Sacramento River and major and minor tributaries, for flood control purposes: Enlargement of existing levees on Sacramento River between vicinity of Moulton weir and Ord Bend; construction of new levees from present levee terminus to vicinity of Chico Landing; construction of a weir near Chico Landing, extension of Moulton weir, and construction of a bypass through Upper Butte Basin; construction of new levees

in Lower Butte Basin; enlargement of existing levees in Sutter, Tisdale, Sacramento, and Yolo Bypasses; and levee construction and/or channel enlargement on following minor tributaries of Sacramento River: Antelope Creek; Chico and Mud Creeks and Sandy Gulch; Butte and Little Chico Creeks; Cherokee Canal; Elder Creek; Deer Creek (Tehama County); Thomes Creek; and Willow Creek. Improvement provides for about 155 miles of channel improvement and about 294 miles of levees with an average height of 12 feet and a freeboard of 3 feet. Improvement also provides for revetment as required for protection of bypass levee slopes against erosion. Total first cost for project is \$18,300,000 (October 1988), of which \$11,900,000 is Federal, and \$6,400,000 non-Federal for lands and damages, including relocations. (See table 35-N on project units classified and excluded from cost estimate.) (b) Sacramento River, Chico Landing to Red Bluff, CA: An extension of the existing Sacramento River Flood Control project which provides for construction of bank protection works and minor channel improvements as required on Sacramento River between Chico Landing and Red Bluff for flood control purposes. Estimated first cost (October 1987) for project work in Tehama, Butte, and Glenn Counties is \$31,000,000, of which \$25,700,000 is Federal cost and \$5,300,000 non-Federal cost for lands and damages including relocations and cash contribution of \$3,435,000. (c) Sacramento River, CA, Bank Protection Project: Includes initial phase covering 430,000 lineal feet of bank protection and a second phase covering 405,000 lineal feet of bank protection under a long range program of bank protection, erosion control works, and setback levees at critical locations within limits of authorized or existing levees included in the Sacramento River Flood Control project to protect integrity of levee system for flood control purposes. Total estimated (October 1997) first cost for project is \$249,400,000, (includes an allowance for estimated inflation through the construction period) of which \$179,900,000 is Federal and \$69,500,000 non-Federal comprised of lands and damages including relocations \$26,671,000 and required cash contribution \$42,829,000 toward first cost. Total estimated cost for recreation facilities, \$2,874,000 (includes both Federal and non-Federal). Construction in (a), (b), and (c) above supplements program of levee improvements as accomplished pursuant to 1917 Flood Control Act, as amended by subsequent acts, including 1941 Flood Control Act, and which are reported on page 35-3A under Sacramento River, CA, flood control. (d) Authorization also provided for Black Butte Lake. For

description of completed project see Annual Report for 1975. Federal first cost for project is \$14,508,820, including \$475,507 for basic recreation facilities. For future non-Federal reimbursement, see Local cooperation paragraph. Federal cost for recreation facilities funded from Code 710 appropriations is \$1,000,162. A concessionaire at Black Butte Marina provided public use facilities in accordance with lease agreement with the Secretary of the Army at an estimated cost to date of \$87,000. (e) Authorization also provided for construction of Table Mountain (Iron Canyon) project, an earthfill dam on Sacramento River about 3 miles north of Red Bluff, CA. This project unit was deauthorized August 5, 1977. For details, see Annual Report for 1978.

**Local cooperation.** (a) Sacramento River and major and minor tributaries: Sec. 3, Flood Control Act of June 22, 1936, applies. Fully complied with for all work completed or under contract, and local interests indicated they will be able to fulfill requirements for remaining work as scheduled. Levee construction (107 miles) total requirement for the "active" project has been completed, transferred to, and accepted by the State. (b) Sacramento River, Chico Landing to Red Bluff: Sec. 3, Flood Control Act of June 22, 1936, applies; local interests must also assume responsibility for flood plain zoning. Fully complied with for portions completed in Tehama, Butte, and Glenn Counties; completed work, bank protection at 36 sites, was transferred to and accepted by the State. (c) Sacramento River Bank Protection Project: Sec. 3, Flood Control Act of June 22, 1936, applies. Local interests must also contribute an amount in cash that, when added to costs of lands, easements, rights-of-way and utility modifications, equals one-third of cost of each unit of remedial work; this contribution is estimated (October 2000) at \$27,740,000. Water Resources Development Act of 1986 applies. Local interests must also contribute an amount in cash, that when added to the cost of lands easement, rights-of-way and utility modifications, equal one-quarter of each unit of remedial work; this contribution is estimated (October 2000) at \$40,970,000. First phase mitigation equals thirty-seven percent for acquisition of land and establishment and maintenance of fish and wildlife habitat, this contribution is estimated (October 2000) at \$790,000. Local interests fully complied with requirements for all work completed or under contract, and indicated they will be able to fulfill requirements for remaining work as scheduled. In addition, for reaches where local interests request bank

stabilization in lieu of more feasible levee setbacks, local interests will contribute costs over and above costs of setbacks, and provide local contribution. Completed units transferred to and accepted by the State. (d) Black Butte Lake: None required for construction. Local interests must pay the portion of first cost and annual operation and maintenance costs allocated to the conservation functions of the project; these costs are estimated at 39.9 percent of first cost and 40.2 percent of annual costs. From March 2, 1960, to October 22, 1970, contract between the Bureau of Reclamation and the State of California provided for repayment of irrigation storage costs; Bureau administered contract in accordance with reclamation law. Local interests paid a total of \$77,205 for irrigation services during this period. Public Law 502, 91st Cong., 2d sess., October 23, 1970, provided that Black Butte project be financially integrated with the Central Valley project, coordinated operationally with other Central Valley project storage units by the Bureau under the Secretary of the Interior, and that dam and reservoir at Black Butte be physically operated and maintained by the Corps in a manner compatible with recreational use of the reservoir.

**Operations and results during fiscal year.** New work: (a) Sacramento River and major and minor tributaries None. (b) Sacramento River Bank Protection Project Complete Contract LAR 2, Site 5, Phase 2 in December 1999 at a cost of \$677,381. Awarded Contract 42D, RD 108-Colusa Basin in August 2000. Engineering and design efforts continue. Fiscal Year costs total \$4,573,226. (See table 35-O for construction accomplished and contract costs.) (c) Sacramento River, Chico Landing to Red Bluff. None. (d) Black Butte Lake, regular funds: None. Code 710 funds: None. Maintenance: Maintenance and operation activities continued. Structures were maintained in serviceable condition. Runoff above Black Butte Dam was above normal for the year. Maximum storage of 113,562 acre-feet occurred April 12, 2001. Maximum hourly inflow to Black Butte reservoir was 28,341 cubic feet per second on March 4, 2001, and maximum outflow of 10,371 cubic feet per second occurred on March 6, 2001. During the year, 67,393 acre-feet was released for flood control and 151,835 acre-feet was released for irrigation and other purposes. (e) Table Mountain (Iron Canyon) Lake: None.

**Historical summary.** (a) Sacramento River and major and minor tributaries (active portions): Construction was initiated in May 1949 on Deer Creek

and Butte Creek units; Cherokee Canal, Elder Creek, Chico and Mud Creeks, and Sandy Gulch units have been completed. Active portion of this improvement is about 99 percent complete. Work remaining is bypass levee revetment as required, which will accomplish under Sacramento River Bank Protection project. (b) Sacramento River Bank Protection Project: First phase (pre-Separable Element 38B and second phase (SE 38B-SE42) have 767,000 linear feet complete. SE 40,41,42 and 43 have 68,000 linear feet remaining. LCAs were executed for SE 41 in August 1988, for SE38B, 40 and 42 in December 1988 and for first phase mitigation in June 1990. Contract LAR 1A1, Site 3 was awarded in August 1996 and completed in December 1996. Contract LAR 1A2, Site 3 (River Park) was awarded in June 1997 and completed in February 1998. Steamboat Slough contract was awarded in September 1997 and completed in November 1997. Contract LAR 1A3, Site (River Park) was awarded in November 1997 and completed in May 1999. Contract for LAR1B, Sites 1, 2, and 4 was awarded July 1998 and completed in December 1999. Contract LAR 2, Site 5, Phase 1 was awarded in January 1999 and completed in March 1999. Contract LAR 2, Site 5, Phase 2 was awarded on August and completed in December 1999. Overall project is about 91 percent complete. (c) Sacramento River, Chico Landing to Red Bluff: Active portion of project, bank protection in Tehama County, was initiated in June 1963 and completed in March 1964. Project was reopened in June 1968 to place additional necessary bank protection. Work at 36 sites was completed in Tehama, Butte, and Glenn Counties as of September 1985 and transferred to State for maintenance. Bank protection on Sacramento River, Tehama County one site, mile 215, (Unit 5), was completed November 1982, two sites, mile 209.5 and mile 217.5, (Unit 6), were completed in November 1983, and four sites, 241.0, 237.9, 237.7, and 237.5 (Unit 7) were completed in February 1985. (d) Black Butte Lake: Construction began in March 1960 and project is complete. Final land acquisition was completed in December 1966. Construction of main dam was initiated in June 1960 and completed in December 1963. Dam has been operating since November 1962 to provide the flood protection for which it was designed. Final cost allocation approved May 3, 1977. Dam safety assurance studies were initiated in FY 1980 and completed in FY 1986. Piezometer installation and slope for protection at dam were completed in FY 1983. A cultural resources survey was completed in FY 1984. (e) Table Mountain (Iron Canyon) Lake: Project unit

deauthorized as of August 5, 1977.

## 28. SAN LORENZO, CA

**Location.** Project is located within the city limits of Santa Cruz, CA, in Santa Cruz County, about 70 miles south of city of San Francisco and includes the lower 2.5 miles of San Lorenzo River which terminates at the Pacific Ocean.

**Existing Project.** Flood control features of the authorized project consist of construction of 13,000 l.f. of levee embankment raise or floodwalls on top of various portions of the existing project levees on both sides of San Lorenzo River from the Southern Pacific Railroad bridge to Highway 1. Habitat restoration measures include revegetating the land-side slopes of the levees. The maximum flood of record occurred in 1955 which inundated 410 acres and caused damages of approximately \$7.6 million. Project was authorized by the Water Resources Development Act of 1996 for flood control and habitat restoration purposes. Streambank erosion control was added to the project under the Water Resources Development Act of 1999. Cost estimate (October 2001) is \$26,600,000 (includes an allowance for estimated inflation through the construction period), of which \$19,500,000 is Federal cost and \$7,100,000 is non-Federal cost.

**Local cooperation.** Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in construction of project; pay 11 percent of cost allocated to flood control to bring the total non-Federal share of costs to 25 percent, as determined under Section 103(m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay as reduced for credit allowed based on prior work (\$50,000 authorized under Section 215 of the Flood Control Act of 1968); pay 9 percent of the costs allocated to fish and wildlife habitat restoration to bring the total non-Federal share of habitat restoration costs to 25 percent, as determined under Section 103 (m) of the Water Resources Development Act of 1986 to reflect the non-Federal sponsor's ability to pay as reduced for credit allowed based on prior work (\$400,000 authorized under Section 215 of the Flood Control Act of 1968), and bear all costs of operations, maintenance, repair, rehabilitation, and replacement of

fish and wildlife facilities. Pay 35 percent of the costs allocated to stream bank erosion control, and bear all costs of operation, maintenance, repair, rehabilitation and replacement of stream bank erosion control features of the project, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement. Local sponsor, City of Santa Cruz, expressed their continued support for project by letter dated October 8, 1997. The Project Cooperation Agreement (PCA) was executed October 15, 1998.

**Operations and results during fiscal year.** Energy and Water Development Appropriations Act, 1997 provided initial construction funds of \$200,000. Engineering and design continued, including revisions of plans and specifications to incorporate habitat restoration features into project. Construction General funds were used for fiscal year costs of \$7,095,400.

**Historical summary.** A flood control project, consisting of levee and channel improvements, was completed in 1959 by the Corps of Engineers. The project was to provide a standard project flood level of protection (about a 200-year event). Since that time, excessive sediment deposition in the streambed has reduced the flood carrying capacity of the existing project. Sediment accumulation and the resultant peak flows during a flood event in January 1982 caused the river to flow near design capacity, even though the storm had a recurrence level of only approximately 25-years. As a result of the flood threat, the City of Santa Cruz and the Corps of Engineers initiated a feasibility study of the San Lorenzo River with the signing of a final Feasibility Cost Sharing Agreement (FCSA) on August 18, 1989. Chief's Report was signed June 30, 1994. Preconstruction engineering and design phase was initiated in March 1994 and completed at a cost of \$934,000. Streambank erosion control requires an amendment to the PCA. A Limited Re-evaluation Report is being prepared and is scheduled for completion in FY 2003.

## 29. UPPER JORDAN RIVER, UT

**Location.** Project is located in Salt Lake County, Utah just south of Salt Lake City corporate limit.

**Existing Project.** The project includes construction of a flood control diversion and sediment control structure on Mill Creek, a 1.4 mile underground conduit from the

diversion structure to a detention basin, and construction of a 100 acre foot Hillview Detention Basin. The project will divert flood flows from Mill Creek to the detention basin and ultimately into Big Cottonwood Creek. The project will provide 100 year flood protection on Mill Creek above State Street.

**Local Cooperation.** Local interests are required to provide lands, easements, rights of way, and borrow and excavated or dredged material disposal areas. Modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in the construction of the project. Pay 6 percent of the costs allocated to flood control and bear all costs of operation, maintenance, repair, rehabilitation and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. Salt Lake County will act as the local sponsor for the project. A Project Cooperation Agreement is pending completion of a limited reevaluation report (LRR) and required funding.

**Operations and results during fiscal year.** PED was completed at a cost of \$1,576,000. At the request of Salt Lake County, the design is being reevaluated to address potential downsizing of the diversion structure and other project features. Results of the reevaluation will be presented in the LRR.

**Historical Summary.** A feasibility report was completed in 1987 and PED was completed in December 1994. Funds were added in FY 1997 to initiate construction. There has been a long history of flooding which is most commonly associated with snowmelt. The most recent flooding occurred in 1982, 1983, and 1984. A General Design Memorandum (GDM) was approved in December 1994. A project Authorization Change (PAC) report was submitted in January 1996 to obtain Congressional reauthorization on a Section 902 (WRDA 86) new cost limit. The project was reauthorized in WRDA 96.

### 30. WALNUT CREEK, CA

**Location.** Project is on Walnut Creek and lower reaches of its principal tributaries, Pacheco, Grayson, San Ramon, Las Trampas, Galindo, and Pine Creeks in Contra Costa County, CA. Improvement will extend from Suisun Bay to head of project about 1 mile above southern limits of city of Walnut Creek. City of Walnut

Creek is about 10 miles south of Suisun Bay. (See Geological Survey quadrangles for area.)

**Existing project.** Comprises extension of existing levees, construction of new levees and concrete channels, channel rectification and enlargement, and utilization of improvements constructed or planned by local interests. Plan provides for about 21.8 miles of channel improvement, two reinforced-concrete drop structures, two stilling basins, and 13.8 miles of levees. Cost estimate (October 1996) is \$97,100,000 (includes an allowance for estimated inflation through the construction period), of which \$71,900,000 is Federal cost and \$25,200,000 is non-Federal cost (includes \$19,360,000 for lands and damages and relocations except railroad facilities, and \$5,840,000 required cash contribution for land enhancement benefits provided by the project). Local interests have expended about \$3 million for flood control in the project area during the period 1955-1965, including the concrete conduits constructed through the city of Walnut Creek at an estimated cost of \$1,000,000 considered a preproject condition to be incorporated in the Corps project. In addition, local developers have made channel improvements for Upper Pine Creek valued at \$5,050,000. The cost thereof is not included in above costs of local cooperation. Improvement adopted by 1960 Flood Control Act (H. Doc. 76, 86th Cong., 1st sess., contains latest published map).

**Local cooperation.** Section 3, Flood Control Act of June 22, 1936, applies, except that relocation of railroad facilities is a Federal responsibility. In addition, local interests must make a cash contribution to the United States, in amount of 7.4 percent of cost of construction for land enhancement benefits provided by project. Cash contribution is estimated (October 1992) at \$5,840,000. Local interests are represented by Contra Costa County Flood Control and Water Conservation District; formal assurances, including evidence of financial and legal ability to fulfill requirement for the cash contribution, were accepted by the Sacramento District Engineer on November 15, 1963. The Flood Control District furnished all rights-of-way required to date and indicated that it will furnish all requirements as needed for future construction. The Flood Control District arranged for highway bridge modifications and utility relocations before start of work by the Corps contractor. Payment of required contributed funds will be made in installments in amounts equal to 7.4 percent of the estimated construction expenditure for each fiscal year.

Flood Control District and city of Walnut Creek requested that recreation be added as a project purpose and will share costs in accordance with Water Resources Development Act of 1986. Post Authorization Change for recreation was approved July 27, 1987. In 1995, the city of Walnut Creek, decided not to proceed with the recreation project.

**Operations and results during fiscal year.** New work: None.

**Historical summary.** Construction was initiated June 1964; project is about 98 percent complete. Total of 17.7 miles of channel improvement, 9.2 miles of levee construction, part of channel improvement landscaping, Drop Structures No. 1 and 2 and construction under San Ramon Bypass Contract No. 1, Contract No. 2 and Contract No. 3 and Upper Pine Creek Channel contact have been transferred to local interests for operation and maintenance. Due to difficulties with Contract No. 1 part of the contract work was completed under Contract No. 1A with a different contractor. A contract for remedial work on San Ramon Bypass Contract No. 2 channel cover was completed in August 1993. The 9-acre mitigation contract was completed in June 1993. Work remaining consists of completion of erosion control mitigation (8-acre Construction responsibility was transferred from San Francisco District on April 1, 1982.

### 31. WEST SACRAMENTO, CA

**Location.** Project is located in West Sacramento, Yolo County, in north-central California.

**Existing Project.** Project consists of raising 4.9 miles of levees up to 5.0 feet along the Sacramento and Yolo Bypasses; constructing 0.9 miles of slurry cut-off wall approximately 50 feet deep at the waterside toe along the east levee of the Yolo Bypass extending into the south levee of the Sacramento Bypass; constructing concrete wing walls with stop logs at the Union Pacific Railroad; constructing a concrete wing wall and flow cut-off wall on each side of Interstate 80; and developing approximately 40 acres of mitigation lands for riparian and upland habitat loss. Project was authorized by the Water Resources Development Act (WRDA) of 1992. Project was reauthorized by the Energy and Water Development Appropriations Act, 1999 (P.L. 105-245) Estimated cost (October 2000) is \$23,500,000 with a Federal cost of \$17,700,000 and a non-Federal cost of

\$5,800,000 which includes a cash contribution of \$2,840,000.

**Local cooperation.** Local interests are required to provide lands, easements, rights-of-way, and dredged material disposal areas; modify or relocate utilities, roads, bridges (except railroad bridges), and other facilities where necessary in construction of project; pay 12 percent of cost allocated to flood control to bring the total non-Federal share of costs to 25 percent, and bear all costs of operation, maintenance, repair, rehabilitation, and replacement of flood control facilities. The non-Federal sponsor has also agreed to make all required payments concurrently with project construction. A Project Cooperation Agreement (PCA) with the local sponsor, the California State Reclamation Board, was executed in May 1996.

**Operations and results during fiscal year.** Work on second contract continued. Fiscal year costs were \$4,212,191 (Federal) and \$1,624,757 (non-Federal contributed funds).

**Historical summary.** Funds were appropriated in FY 1992 to initiate preconstruction engineering and design (PED) for the combined American River Watershed and Sacramento Metropolitan studies. The two projects were separated when WRDA 92 authorized the West Sacramento Project (Sacramento Metropolitan) independently of the American River Watershed Project. Funds to initiate construction for the West Sacramento Project were appropriated in FY 1995. Design Memorandum was approved in March 1996. PED was completed at a cost of \$1,847,000. First construction contract in the amount of \$5,217,225 was awarded June 19, 1998. Work began on the second contract which was awarded September 30, 1999.

### 32. WILDCAT AND SAN PABLO CREEKS, CA

**Location.** Project is located in vicinity of San Pablo and Richmond, Contra Costa County, CA, about 20 miles northeast of San Francisco, CA.

**Existing project.** Current plan of improvement reflects only Reach 1, which is from San Pablo Bay to AT&SF Railroad tracks on both Wildcat and San Pablo Creeks; Reach 1 consists of 9,900 lineal feet of channel improvements on Wildcat Creek and 10,000 lineal feet



of channel improvements on San Pablo Creek. Improvements include channel deepening, levees, stilling basins, and flow control weirs. Additionally, about 20 acres will be planted for mitigation of fish and wildlife. Reach 2, which is upstream of AT&SF Railroad tracks and consists of 9,400 lineal feet of channel and levee work on Wildcat Creek, 1,800 lineal feet of channel and levee work on San Pablo Creek, and mitigation for fish and wildlife on 8 acres, was determined to be economically infeasible, excluded from total project cost, and reclassified as inactive. Project also includes recreation features on Wildcat Creek. Approved estimated cost of new work (1996) is \$35,200,000 (includes an allowance for estimated inflation through the construction period), of which \$20,200,000 is Federal cost, and \$15,000,000 is non-Federal cost (includes \$1,593,000 cash contribution). Improvements adopted by House and Senate Public Works Committee Resolutions June 9 and 15, 1976, respectively, under provisions of Sec. 201 of Flood Control Act of 1965 (H. Doc. 511, 94th Cong., 2d sess., contains latest published map). For details on units, see Annual Report for 1968.

**Local cooperation.** In accordance with cost sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests are required to provide lands, easements, rights of way, and dredged material disposal areas; modify or relocate buildings, utilities, roads, bridges (except railroad bridges), and other facilities, where necessary in the construction of project; pay one-half of the separable costs allocated to recreation and bear all costs of operation, maintenance, and replacement of recreation facilities; pay 5 percent of the costs allocated to flood control and bear all costs of operation, maintenance, and replacement of flood control facilities. Local interests have agreed to make all required payments concurrently with project construction. The Board of Supervisors of Contra Costa County by Resolution 73-466, June 25, 1973, agreed to assume obligations of local cooperation. On November 9, 1976, the Board reaffirmed sponsorship by Resolution 76-960. Contra Costa County Flood Control and Water Conservation District Board of Supervisors formed an Assessment District, August 3, 1982, which assures availability of funds for local share of non-Federal portion of flood control project costs for a modified plan of improvement. A flood control Local Cooperation Agreement satisfying all requirements of Sec. 221, Flood Control Act of 1970 (Public Law 91-661) and consistent with the Water Resources Development Act of 1986 (Public Law 99-662), was executed on June 20, 1986

between the Department of the Army and the Contra Costa County Flood Control and Water Conservation District. By Resolution No. 1985-12-351, adopted December 17, 1985, the East Bay Regional Park and Recreation District stated support for development of trail and recreational improvements for the project and indicated its intent to share in 50 percent of the cost of such improvements and perform operation and maintenance responsibility. A recreation Local Cooperation Agreement (LCA) was signed by the Assistant Secretary of the Army on April 15, 1992.

**Operations and results during fiscal year.** Engineering and construction continued.

**Historical summary.** Contact 3C completed. Local interests withdrew support of project in 1979. Project responsibility was transferred from San Francisco District on April 1, 1982. After 1982-1983 floods, local interests again indicated support of the project, and in October 1983, project work was resumed by Sacramento District. A revised final environmental impact statement was filed March 28, 1986, and a General Design Memorandum was approved May 29, 1986. Flood Control Local Cooperation Agreement was executed June 20, 1986. Recreation Design Memorandum was approved on February 19, 1992, and the recreation LCA was signed on April 15, 1992. Construction work under Contract No. 1 and Contract No. 2 for Reach No. 1 of Wildcat and San Pablo Creeks has been transferred to local sponsor for operation and maintenance. In March 1990, Reach 2 was declared infeasible and is now inactive. All costs have been deleted from project cost estimate. Flood control construction of the project is about 100 percent complete. Final accounting of project is underway. Recreation features are 50 percent complete.

### 33. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Approved regulations for operation and maintenance of flood control works, part 208, title 33, Code of Federal Regulations, provide for inspection of completed projects transferred to local interests for operation and maintenance to determine status of project and insure compliance with regulations. During fiscal year, inspections were made of: Completed units of Fairfield Vicinity Streams; completed units of Sacramento River and major and minor tributaries;

completed units of Sacramento River, Chico Landing to Red Bluff; completed units of Sacramento River flood control project, Kings River Channel Improvement (Pine Flat Lake project), and Walnut Creek project; American River levees; Merced County Stream group; Middle Creek (Lake County); Chester, North Fork Feather River; levee and channel improvements on Chowchilla River (Buchanan project) and Fresno River (Hidden project); Duck Creek diversion, Green Valley Creek, Littlejohn Creek, Mormon Slough, Bear Creek, Kern River-California Aqueduct Intertie, and North Fork, Pit River at Alturas, all in California; Truckee River, CA and NV; completed units of lower San Joaquin River and tributaries, CA; completed units of Red Bank and Fancher Creeks including Big Dry Creek Dam and diversion, and Fancher Dam and Redbank, Alluvial Drain and Pup Creek detention basins, CA; Reese River, Battle Mountain, NV; Sevier River, Redmond and vicinity, Jordan River, Big Wash near Milford, and Kays Creek, all in Utah; various emergency flood control works under authority of Sec. 208, Flood Control Act of June 30, 1948, and September 3, 1954; Public Law 99, June 28, 1955, and antecedent legislation; and Sec. 14 of Flood Control Act of July 24, 1946. Maintenance inspections conducted indicate that existing agreements and regulations are being complied with on completed flood control works. Continuing effort is required to improve maintenance practices and active steps are being taken by responsible State and local agencies to achieve desired results. Local agencies were advised, as necessary, of measures required to maintain these projects in accordance with standards prescribed by regulations. Total cost of inspection for fiscal year of \$217,303.

### 34. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

**Flood control activities pursuant to sec. 205, Public Law 858, 80th Congress, as amended (Preauthorization).**

Costs for preauthorization studies for fiscal year were \$676,855. See Table 35-P for list of studies.

**Aquatic Ecosystem Restoration activities pursuant to sec 206, Public Law 303,104<sup>th</sup> Congress.**

Cost for studies for fiscal year were \$1,432,649. See Table Q for list of studies.

**Emergency flood control activities-repair, flood fighting, and rescue work (Public Law 99, 84th Cong., and antecedent legislation).**

Federal cost for fiscal year was \$17,134,767, \$468,774 was for disaster preparedness and \$16,665,993 for emergency flood repairs.

**Emergency bank protection (Sec. 14, 1946 Flood Control Act, Public Law 526, 79th Cong.).**

Federal cost for fiscal year was \$8,063, \$0 was for emergency operations and \$8,063 for emergency streambank and shoreline protection.

**Snagging and clearing navigable streams and tributaries in interest of flood control (Sec. 208, 1954 Flood Control Act, Public Law 780, 83d Cong.).**

Federal cost for fiscal year was \$14,609 all of which was used for snagging and clearing activities. See Table R for list of studies.

**Flood insurance activities (Sec. 1301-1377, 1968 Housing and Urban Development Act, Public Law 90-448 as amended).**

In coordination with flood control activities, four flood insurance studies were continued. Inter-Agency Agreements EMW-96-1A-0294, EMW-96-1A-0195-FEMA, EMW-96-1A-0195, and EMW-97-1A-0140, at a fiscal year cost of \$101,670 under Federal Emergency Management Agency reimbursable order.

### 35. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

In accordance with sec. 7, Flood Control Act of 1944, summaries of monthly reservoir operations at Big Dry Creek, Boca, Camanche, Del Valle, Folsom, Friant (Millerton Lake), Indian Valley, Los Banos Detention, New Bullards Bar, New Don Pedro, New Exchequer (Lake McClure), New Melones, Oroville, Prosser, Shasta, and Stampede, CA; East Canyon, Echo, Jordanelle, Little Dell, Lost Creek, Pineview, Red Fleet, Starvation, and Wanship, UT; and Blue Mesa, Lemon, Paonia, Ridgway, and Vallecito, CO, were prepared. No water control manual revisions were completed due to environmental issues. Corps personnel provided advice

Sec. 7 as requested during flood control operations at all c. 7 reservoirs. Fiscal year cost was \$1,798,700. Total cost to September 30, 2001, was \$1,377,028.

#### Multiple-Purpose Projects including Power

### 36. NEW MELONES LAKE, CA

**Location.** On Stanislaus River about three-quarters mile downstream from existing Melones Dam and about 35 miles northeast of city of Modesto. (See Geological Survey quadrangles of the area.).

**Existing project.** Provides for construction of (a) an earth and rockfill dam about 625 feet high to create a reservoir with gross storage capacity of about 2,400,000 acre-feet for flood control, irrigation, power, general recreation, fish and wildlife, and other purposes, and (b) a powerplant below the dam with an installed capacity of 300,000 kilowatts. Upon completion of construction of dam and powerplant by the Corps, the project became an integral part of Central Valley project and is being operated and maintained by the Secretary of the Interior pursuant to Federal reclamation laws, except that the flood control operation of the project shall be in accordance with rules and regulations prescribed by the Secretary of the Army. Maintenance of Stanislaus River channel from Goodwin Dam to San Joaquin River to a capacity of at least 8,000 cubic feet per second will also be Corps responsibility. Estimated (October 1996 price level) Federal cost is \$402,000,000. For future non-Federal reimbursement, see Local cooperation paragraph. In addition, local interests expended \$300,000 for levees along lower reaches of Stanislaus River. Existing project was adopted by 1962 Flood Control Act (H. Doc. 453, 87th Cong., 2d sess., contains latest published map). This act modified original authorization adopted by 1944 Flood Control Act. (H. Flood Control Committee Doc. 2, 78th Cong., 2d sess., contains latest published map.) The 1944 Flood Control act established \$8 million monetary limitation for partial accomplishment of project. Further monetary authorizations of \$2.5 million, \$5 million, \$13 million, \$2 million, \$17 million, \$18 million, \$44 million, \$83 million, \$46 million, \$6 million, and \$61 million were provided for this project by Public Laws 235 and 780, 83d Cong., and 85-500, 90-17, 90-483, 91-282, 92-222, 93-251, 94-397, 95-104, and 95-189, making a total monetary authorization of \$305,500,000 available for the

basin plan comprising Lower San Joaquin River and tributaries, including Tuolumne and Stanislaus Rivers, CA. Since FY 1979, appropriations have not been subject to the river basin monetary limitation.

**Local cooperation.** Based on approved preliminary cost allocation studies (July 1965) local interests will be required to pay 35.2 percent of first cost and 12.7 percent of annual operation and maintenance costs allocated to irrigation. In addition, 31.1 percent of first cost and 62.5 percent of annual cost would be allocated to power. Local interests must also maintain existing private levees along Stanislaus River from Goodwin Dam to San Joaquin River and prevent encroachment on channel and floodway between levees to preserve safe carrying capacity throughout the reach of at least 8,000 cubic feet per second. Recovery of costs allocated to irrigation and power will be the responsibility of the Bureau of Reclamation. Reimbursement of costs will be in accordance with Bureau policies and procedures for the Central Valley project. State of California officially adopted project by chapter 918 of statutes of 1963, and by chapter 1438 of those statutes authorized State Reclamation Board to furnish required assurances. The Board, by letter dated December 13, 1963, stated it would furnish required assurances when formally requested to do so. Assurances were requested by letter of December 30, 1977. On October 2, 1979, the Board reaffirmed its intent to furnish the required assurances. On January 6, 1983, the Board provided formal assurances of local cooperation.

**Operations and results during fiscal year.** New work: Project close-out and flowage easement acquisition along the Lower Stanislaus River were continued. Maintenance: Maintenance and operation activities continued on Lower Stanislaus River.

**Historical summary.** Construction was initiated in August 1966. Main dam contract which was awarded in March 1974 has been completed; dam dedication ceremonies were held July 14, 1979. Cultural resources preservation, water intake facilities, flood control and irrigation tailrace modification, reservoir area clearing, Tuttle town Phase I recreation area, Oakdale recreation, Glory Hole Phase I and Phase II recreation area, and operations access road contracts have all been completed. Glory Hole minimal recreation facilities contract has been completed. Boundary fencing, Lower Stanislaus Phase I and Phase II minimal recreation facilities, Lower Stanislaus Corporation Yard, and

Lower Stanislaus Administration Building contracts have been completed. Tuttletown minimal recreation facilities, McHenry recreation area, Tuttletown wastewater treatment, Knights Ferry recreation area, Knights Ferry Covered Bridge, Glory Hole recreation area sanitary system, Two-Mile Bar recreation, administration building, and Glory Hole recreation area force main contracts have been completed. Parrotts Ferry Bridge modification (Nov 93), Widening Highway 49 Intersection (Aug 94); Tuttletown Recreation Campgrounds, and Tuttletown and Glory Hole Improvement (Jan 94) have been completed. Remaining recreation facilities were unscheduled pending development of cost sharing agreements and/or specific Congressional appropriation of funds. A Memorandum of Understanding between the Department of the Interior and the Department of the Army transferring the New Melones dam and reservoir from the Corps of Engineers to the Bureau of Reclamation was executed on November 20, 1979. Agreement provides that the Corps complete land acquisition actions and retain budgeting, design, and construction responsibility for reservoir clearing and recreation development; completion of cultural resources mitigation in project area was vested in the Department of the Interior. The California State Water Resources Control Board's Decision 1422 of April 1973 established conditions which impacted on the planned filling and operation of the project by the Department of the Interior. As a result, the Department of Interior brought suit against the State of California claiming State limitations on project operation were contrary to Congressional intent and authority. The case was heard before the U.S. District Court in Fresno, CA, and in early March 1981, a Federal judge ruled that the Federal Government could fill the New Melones reservoir for purpose of generating electrical power, but not for agricultural or other purposes. Both the Government and the California State Resources Control Board appealed this decision to the 9th Circuit Court of Appeals in San Francisco, CA.

On December 20, 1982, the Court upheld all 25 requirements placed on the Federal Government by the State Water Resources Control Board. The decision reversed the lower court's decision to permit filling of the reservoir for generating electrical power. The Bureau of Reclamation subsequently filed for a permit from the State Water Resources Control Board to fill the reservoir. Permit was approved. The Bureau had originally started generating power on a limited basis on July 1, 1979; however, after the filling of the reservoir in

spring of 1983, full power generating benefits have been attained. Project is about 99.9 percent complete.

#### **General Investigations**

### **37. SURVEYS**

See Table 35-S.

### **38. COLLECTION AND STUDY OF BASIC DATA**

Technical assistance was performed for other Federal agencies as well as non-Federal agencies in connection with Flood Plain Management Services Program at fiscal year costs of \$148,598 federal funds and \$6,858 contributed funds. No Flood Plain Information Studies were prepared after FY 1980.

Fiscal year costs for hydrologic studies were \$10,228.

### **39. RESEARCH AND DEVELOPMENT**

The Hydrologic Engineering Center was designated as a separate Field Operating Agency as of January 1, 1979, in accordance with OCE permanent orders 1-1, January 10, 1979. In the reorganization of CEIWR, beginning in FY 2001 appropriations and costs will be reported in CEIWR's database not Sacramento District. Sacramento District will continue to provide advisory and administrative support services to HEC as specified in local support agreement DACW05-79-A-0038 of March 1979.

### **40. PRECONSTRUCTION ENGINEERING AND DESIGN**

#### **AMERICAN RIVER WATERSHED, CA (COMPREHENSIVE PLAN)**

The projects are located in Placer, El Dorado, and Sacramento Counties on the North, Middle and South Forks of the American River and along the lower American River and Sacramento Rivers.

Recent evaluations indicate that the level of flood protection along much of the American River and in the Natomas area is less than the 100-year level. The Supplemental Information Report (SIR) was completed

in March 1996 as directed by the Defense Appropriations act for FY 1993. The Chief of Engineer's Report recommended implementation of elements common to the final candidate plans presented in the SIR. These "common elements", were authorized for construction in the Water Resources Development Act (WRDA) of 1996. Other alternatives addressed in the SIR include: Folsom outlet modifications, Folsom Dam raising, downstream levee raising along the American and Sacramento Rivers, and upstream storage. Efforts are being continued to define plans for alternatives leading to higher levels of flood protection for the Sacramento area and vicinity.

The Feasibility Report for the American River Watershed Investigation was completed in December 1991 and the Division Engineer's Report was issued in February 1992. Funds were appropriated in FY 1992 to initiate preconstruction engineering and design (PED) for the combined American River Watershed and Sacramento Metropolitan studies. The two projects were separated when WRDA 92 authorized the American River Watershed Project independently of the West Sacramento Project (Sacramento Metropolitan).

Sec. 566 of WRDA 99 directed additional flood control studies for: (a) increasing surcharge flood control storage at Folsom Dam and Reservoir, and (b) increased flood protection through levee modifications on the American and Sacramento Rivers, and directed the Corps to submit a report to Congress by March 2000 documenting results of the studies. The Corps completed an interim report in January 2000.

Sec. 101 of WRDA 99 authorized the Folsom Dam Modifications project as described in the Supplemental Information Report dated March 1996, as modified by the report entitled "Folsom Dam Modification Report, New Outlets Plan," dated March 1998, prepared by the Sacramento Area Flood Control Agency, at an estimated cost of \$150,000,000, with an estimated Federal cost of \$97,500,000 and an estimated non-Federal cost of \$52,500,000.

Estimated preconstruction planning cost is \$28,600,000.

#### **TRUCKEE MEADOWS, NV**

Project is located in metropolitan area of Reno and

Sparks in Washoe County, NV.

Current plan of improvement consists of about 7 miles of levees, 5 miles of floodwalls, 3 bridge replacements along Truckee River and includes limited channel excavation, a detention dam on Steamboat Creek at Huffaker Narrows, and backwater levees along Steamboat Creek, Boynton Slough, and the North Truckee Drain just north of the Interstate Highway 80 crossing. Plan also includes recreation facilities with bicycle and pedestrian paths, river overlooks, and picnic sites; mitigation measures (31 acres of riparian plantings to replace vegetation losses); and fish and wildlife features. Project will provide flood protection from Truckee River to cities of Reno and Sparks and Truckee Meadows urban areas.

Project was deferred and preconstruction planning had been terminated as project is economically infeasible. Coordination with local agencies and sponsors was continued. Flooding remains an issue and locals requested a review of the project. A reconnaissance study is reassessing the flood control needs.

#### **NAPA RIVER, CA**

Project is located in city and county of Napa, CA.

Current plan of improvement consists of geomorphic channel design setback, floodwalls and levees, training dike, a dry bypass channel, and related environmental mitigation measures. The improvements on Napa River would extend about 7 miles, from Trancas Street to Highway 29. Approximately one mile of Napa Creek, from the confluence of Jefferson, would be improved to increase flood protection.

The project will provide 100-year level of flood protection from Napa River and Napa Creek to city of Napa.

A hazardous, toxic and radioactive waste preliminary evaluation was conducted. The Final Supplemental General Design Memorandum and Supplemental Environmental Impact Statement/Environmental Impact Report were completed in October 1998. Estimated preconstruction planning cost is \$15,000,000.

#### **SOUTH SACRAMENTO, CA**

South Sacramento County Streams drainage basin is

located in the southeastern portion of Sacramento County, California. The study consists of the Morrison Creek Stream Group Basin, approximately 180 square miles in size. The basin includes Morrison, Elder, Florin, Unionhouse and Laguna Creeks. Significant flooding occurred in 1952, 1955, 1962, 1963, 1967, 1969, 1973, 1982, 1986, 1995, and 1997.

Approximately 41,000 structures are within the 500-yr floodplain with an estimated value of \$5.9 billion. Levees along Morrison Creek and tributaries provide less than a 100-yr level of flood protection. Results of the feasibility study, completed in March 98, indicate the project would include channel and levee improvements and detention facilities.

PED agreement executed May 1998. Chief's Report was signed October 1998. PED agreement amended Feb 2000 to increase cost and complete P&S with PED funding. PED agreement amended Dec 2000 to increase cost to incorporate changes and complete PED phase.

Estimated preconstruction planning cost is \$ 3,883,000.

#### **TULE RIVER, CA**

The project area is located within the 12,500 square-mi Tulare Lake Basin located in the southeast portion of the San Joaquin Valley. Tule River drains about 390 square mi into Success Lake and flows from the lake on to the valley through the city of Porterville, 5 miles downstream, and continues another 25 miles through agricultural areas, culminating in Tulare Lakebed. Serious flood problems occur in the Tule River Basin generally as a result of inadequate channel capacities. Flooding occurred in 1966 and 1983. 1983 Flood damages downstream in the Tulare Lakebed were extremely severe and widespread; damages attributed to the Tule River were approximately \$7.5 million.

The authorized project is to raise the gross pool elevation of Success Lake for flood control and irrigation water supply by raising the spillway 10 feet and widening the spillway from the existing 200 feet to 365 feet.

Reconnaissance Report was certified by OCE in April 1988 and feasibility studies were initiated in

May 1988. The Interim Feasibility Report was distributed April 1992, but the Feasibility study was suspended at that time pending completion of a seismic study. Seismic studies were completed and feasibility studies resumed with the final feasibility report and Division Engineer notice issued in September 1999. Project was authorized for construction in WRDA 1999. The PED cost sharing agreement with sponsor was signed January 2001.

#### **YUBA RIVER, CA**

The Yuba River lies between the Feather and American Rivers in northern California. The study is located in Sutter and Yuba Counties approximately 50 miles north of Sacramento. The principal urban centers within the study area include Marysville, Yuba City, Linda and Olivehurst.

Recommended project, which lies downstream of Daguerre Point and goldfields, would include levee improvements including installation of slurry walls, constructing landside berms, toe drains, and levee raising along the Yuba and Feather Rivers. Area has experienced 7 major floods. Despite modifications for flood protection over past years, the area is still vulnerable to catastrophic flooding as demonstrated by floods of February 1986 and January 1997. Damages were estimated at \$95 million and \$82.4 million, respectively.

Section 104 - Sponsor has been approved to proceed with advance work in conjunction with the Marysville Yuba City project to assure at least a 200-year level of flood protection is obtained. In October 1996, ASA(CW) approved the advance work for possible Section 104 credit/reimbursement. Current milestones for the project include: DE Notice - April 1998; Chief's Report - Nov 1998; PED Agreement - June 2000. Project authorized for construction WRDA 1999.

#### **41. OTHER WORK UNDER SPECIAL AUTHORITY**

##### **ASHLEY CREEK ECOSYSTEM, UT (Section 1135) Project Modification for Improvement of Environment**

The proposed project modification consists of restoring 2.4 miles of stream meanders and associated riparian vegetation on Ashley Creek. The site is part of a 12-mile reach that was straightened and enlarged (dredged) by the Ashley Creek Clearing and Snagging Project constructed by the Corps in 1966. The restoration project would modify the features of the clearing and snagging project by reconstructing stream meanders and replanting associated riparian vegetation on the reach of Ashley Creek most adversely affected by the flood control work. Estimated project cost is \$3,616,000.

Current project is proceeding under authority of Sec. 1135(b) of Water Resources Development Act (WRDA) of 1986.

Fiscal year costs were \$143,077.

**CHEROKEE CANAL, CA (Section 1135) Project Modification for Improvement of Environment**

Cherokee Canal is located approximately 10 miles northwest of the City of Oroville in Butte County, California, within the Dry Creek/Cherokee Canal watershed. Oroville is located approximately 68 miles north of Sacramento. Dry Creek/Cherokee Canal flows into Butte Creek, a tributary of the upper Sacramento River.

The project include a 300- to 400- acre wetlands restoration site about 10 miles northwest of Oroville and preserve about 840 acres of existing wetland/riparian habitat along the canal downstream of the restoration site by controlling sediment transport. This would establish a rich diversity of habitats for migratory waterfowl, resident birds, and other wildlife, including several listed endangered species. Estimated project cost is \$6,600,000.

Preliminary Restoration Plan (PRP) has been approved in Jan 00. Initiated Ecosystem Restoration Report (ERR) in Feb 00.

Fiscal year costs were \$65,565.

**CHESTER, NORTH FORK FEATHER RIVER, CA (Section 1135) Project Modification for Improvement of Environment**

The project is located on the North Fork of the Feather River near Chester, CA 120 miles northeast of Sacramento, CA.

The project consists of a diversion dam and diversion channel, which protects the town of Chester from flooding by diverting flood flows. The fish passage modification project consists of construction of a shear boom which controls the amount of debris reaching the fish ladder structure, modification of the fish ladder itself and installation of an auxiliary water supply system in order to aid in attracting and guiding the fish.

Construction was completed in Jan 95 however, high flows in the spring of 1995 revealed that follow-on work would be required for the project to function properly. Completion of in-water work was partially completed during summer of 1999. Final contract completed Nov 00. Project transferred to local sponsor Dec 00. Project fiscal completion is scheduled for Feb 02. Fiscal year costs were \$38,765.

**MORMON CHANNEL, CA (Section 1135) Project Modification for Improvement of Environment**

Project is located in San Joaquin County, including a portion of the City of Stockton and an area northeast of the City of Stockton.

Project will restore the degraded aquatic ecosystem that resulted from the construction and operation of the Stockton Diverting Canal. Mormon Channel originates just downstream of New Hogan Dam and runs west southwest towards Stockton, roughly paralleling the Calaveras River. The Diverting Canal was constructed across Mormon Channel near Highway 99 to divert Mormon Channels flood waters away from eastern Stockton and back into the Calaveras River. The diversion has been an effective flood control measure, but has also excluded most flows from the downstream portion of Mormon Channel. A possible project alternative includes a mechanism whereby some flood waters are transferred from the Stockton Diverting Canal into the downstream portion of Mormon Channel. This flood water will be used as part of an ecosystem restoration effort encompassing the 6.3 miles of Mormon channel between the Diverting Canal and the Stockton Deepwater Ship Channel Turning Basin. Estimated project cost is \$6,000,000.

The PRP has been approved in Mar 99 and initiated

Environmental Restoration Report (ERR) in May 99.

Fiscal year costs were \$96,588.

**MURPHY SLOUGH, CA (Section 1135) Project  
Modification for Improvement of Environment**

The project site is on the upper Sac River, near Chico Landing and within the Butte Basin Overflow Area. Potential restoration measures identified during the recon study of Murphy Slough include revegetation of riparian forest and development of shaded riverine aquatic habitat. Restoration would provide acres for several State and/or Federally listed endangered or threatened bird and fish species; e.g. willow flycatcher, yellow-billed cuckoo, VELB, Swainsons hawk, Chinook salmon and steel head trout. Physical improvements are desirable along the upper Sacramento River system to improve both flood control conveyance and F&W habitat. Loss and deterioration of riparian habitat is contributing to the extinction and elimination of several wildlife species. Estimated project cost is \$3,631,000.

PCA was signed 18 September 1998. Project is in the construction phase.

Current project is proceeding under authority of Sec. 1135(b) of Water Resources Development Act (WRDA) of 1986.

Fiscal year costs were \$602,213.

**NUMANA DAM FISH PASSAGE, NV (Section 1135)  
Project Modification for Improvement of  
Environment**

Project is located in Washoe County, Nevada about 8.3 miles upstream from Pyramid Lake on the Lower Truckee River (Pyramid Lake Paiute Indian Reservation).

The construction of the Corps' Truckee River project and several agricultural diversions has had a strong detrimental effect on the environmental quality of the Lower Truckee River and Pyramid Lake. One of the effects of lowered river flows has been decreased numbers of Lahonton Cutthroat trout (threatened) and Cui-ui (endangered species) making it up the river to spawn. The fish ladder has been very inefficient for Cui-ui migration. The tentatively selected plan in the draft ERR is to remove Numana Dam.

The sponsor, Pyramid Lake Paiute Tribe, requested that no further action be taken on the project. They are pursuing legislation for 100% federal funding.

Fiscal year costs were \$1,891.

**PINE FLAT TURBINE BYPASS, CA (Section 1135)  
Project Modification for Improvement of  
Environment**

The project is located on the Kings River approximately 20 miles east of Fresno, CA

The project was constructed for flood control and water conservation, consisting of Pine Flat Dam and downstream channel improvements. Penstocks were included in the construction of the dam and a power plant was added in 1984 by the Kings River Conservation District. Turbine bypass modification consists essentially of installing a steel conduit ahead of the power plant to allow releases through the penstocks when the turbines are off-line. Construction of Pine Flat Dam eliminated the native trout fishery in the lower Kings River, which now supports stocked and wild trout fishery. Releases from the dam have been too warm to support the fishery in late summer and early fall of below normal storage years. The modification would improve the water temperature released from the dam.

PCA was executed Nov 00. Completed the P&S and awarded the valve manufacture contract in Jun 01. Awarded installation contract Sep 01. Completion scheduled for Dec 02. Fiscal years costs were \$165,193.

**PROSPECT ISLAND, CA (Section 1135) Project  
Modification for Improvement of Environment**

Project is located in Solano County, California, within the northwest portion of the Sacramento-San Joaquin Delta Region.

Prospect Island is a long, rectangular island comprised of 1,580 acres bordered by the Sacramento Deep Water Ship Channel (SDWSC) to the west and Miner Slough and Ryer Island to the east. The island has flooded four times, in 1983, 1986, 1995, and in January 1997. The Corps constructed levees adjacent to the SDWSC, which run parallel along the length of the island. These levees are damaged by wave wash from passing ocean vessels in the channel. The construction of the ship channel and



reclamation of adjacent lands have also contributed significantly to the loss of valuable wetlands in the study area. Estimated project cost is \$7,126,000.

PCA was executed in Sep 99. Plans and Specs were completed in July 01 and initiate construction in April 02.

Fiscal year costs were \$273,464.

**SOUTH FORK PUTAH CREEK PRESERVE, CA (Section 1135) Project Modification for Improvement of Environment**

The project site is located near the south levee of South Fork Putah Creek, just southeast of the city of Davis. Project is grading and planted for habitat restoration. Estimated project cost is \$1,601,000.

PCA was signed on 18 December 1998.

The previous project was included under the Sacramento River Flood Control Project. Project is in the construction phase. Current project is proceeding under authority of Sec. 1135(b) of Water Resources Development Act (WRDA) of 1986.

Fiscal year costs were \$84,222.

**VIC FAZIO WILDLIFE AREA, CA (formerly Yolo Basin Wetlands, Sacramento River, CA, Section 1135)**

The project is primarily located within the boundaries of the Yolo Bypass, an operative feature of the Sacramento River Flood Control Project. The Yolo Bypass extends 43 miles from Fremont Weir on the Sacramento River, south to the town of Rio Vista where it rejoins the river.

During periods of high flows on the Sacramento River water is diverted through the Yolo Bypass, creating seasonal wetland areas. The 3,700-acre wildlife restoration area is expected to be a major stop for migratory waterfowl in the Pacific Flyway. Restoration of wetland habitat will attract additional waterfowl, wading birds and shore birds and contribute to the recovery of many Federal and state rare, threatened, or endangered species. The importance of the Yolo Bypass wetland to waterfowl and other water birds has increased due to the disappearance over recent decades of vital wetlands in the Central Valley. The project is the largest

wetland restoration project west of the Florida everglades and consists of physical improvements to help create a mixture of native marsh, permanent and seasonal wetlands and riparian forest. Improvements include modifications to existing drainage canals or construction of small dikes and weirs to redirect available water sources to proposed wetland areas. Congress added construction of an administration and maintenance facility and a flood plain hydraulic management model as authorized project features. Current total project cost estimate is \$17,362,000, cost shared 70% Federal and 30% local sponsor.

The California State Department of Fish and Game is the non-Federal sponsor. The sponsor will furnish lands, easements, rights of way and borrow and excavated or dredged material disposal areas; and bear all costs of operation, maintenance, repair, rehabilitation and replacement of project modifications for improvement of the environment. At the sponsor's request, separate Local Cooperation Agreements (LCA) were prepared for the Putah Creek Sinks and Yolo Causeway sites. The LCA for the Putah Creek Sinks site was executed in December 1993. The LCA for the Yolo Causeway site was executed in April 1995. A third LCA for a 180-acre site was executed in October 1996.

Efforts to complete the floodplain hydraulic management model and project close out and audit activities continue. Fiscal Year costs total \$3,964.

The project was authorized by the Water Resources Development Act (WRDA) of 1986, Public Law 99-662, Sec. 1135(b), as amended by Sec. 304 of WRDA 1990. The project was initiated in fiscal year 1991 with funds added by Congress to the Fiscal Year 1991 Appropriations Bill. A Project Modification Report and an Environmental Assessment/Initial Study were completed in April 1992. Three existing sites were identified for wetlands restoration: Putah Creek Sink (3,000 acres), Yolo Causeway (182 acres) and Willow Slough Bypass (345 acres). Willow Slough Bypass was later withdrawn due to difficulty in acquiring lands. The project was turned over to the Department of Fish and Game in November 1997. The Energy and Water Development Appropriations Act of 1999, Sec. 508 changed the project name from "Yolo Basin Wetlands" to "Vic Fazio Yolo Wildlife Area".

**YOLO WETLANDS BASIN, DAVIS SITE,**

**SACRAMENTO, CA (Section 1135) Project  
Modification for Improvement of Environment**

Project is located contiguous to boundaries of Yolo Bypass and Willow Slough Bypass, which is a leveed tributary of Sacramento River on west side of Yolo Bypass. Yolo Bypass and Willow Slough Bypass are operative features of the Sacramento River Flood Control Project.

Project include a 369-acre site that consists of 212 acres of permanent wetland, 64 acres of riparian woodland, 64 acres of grassland/upland, and 56 acres of

seasonal wetland, dikes, roads, gates, ponds and islands. Water for wetland site is available from City of Davis waste water treatment plant and from its storm drain system. Estimated project cost is \$6,000,000.

A previous Davis site was included under Yolo Basin Wetlands, Sacramento River project, but was with drawn for consideration by local sponsor due to difficulty in obtaining lands. Current project is proceeding under authority of Sec. 1135(b) of Water Resources Development Act (WRDA) of 1986.

Fiscal year costs were \$17,214.

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project  | Funding               | FY 98     | FY 99     | FY 00      | FY 01      | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|--|-----------------------|-----------|-----------|------------|------------|---------------------------------|
| 1.                        | Sacramento River<br>CA (Federal<br>Funds)  | New Work<br>Approp.   | -         | -         | -          | -          | 40,331,192 <sup>1</sup>         |
|                           |  | Cost-                 | -         | -         | -          | -          | 40,331,192 <sup>1</sup>         |
|                           |  | Maint.<br>Approp.     | 5,139,000 | 1,055,000 | 1,909,000  | 2,802,269  | 62,033,947 <sup>2</sup>         |
|                           |  | Cost                  | 3,652,774 | 2,560,678 | 1,725,466  | 2,985,327  | 59,034,079 <sup>3</sup>         |
|                           | (Contrib. Funds.<br>Other)   | Maint<br>Contrib.     | -         | -         | -          | -          | 85,000 <sup>4</sup>             |
|                           |  | Cost                  | -         | -         | -          | -          | -                               |
| 2.                        | Sacramento River<br>Deep Water Ship<br>(Required Contrib.<br>Funds)                        | New Work<br>Approp.   | -         | 57,000    | -          | -          | 7,816,474 <sup>5</sup>          |
|                           |  | New Work<br>Contrib.  | 1,912     | 37,339    | 7,298      | 2,349      | 7,784,654                       |
|                           |  | Cost                  | -         | -         | -          | -          | 2,610,000                       |
|                           |  | Cost                  | 310       | 6,773     | 2,177      | 7,574      | 2,599,223                       |
|                           | (Contrib. Funds,<br>Other)   | Maint.<br>Contrib.    | -         | -         | -          | -          | 15,000                          |
|                           |  | Cost                  | -         | -         | -          | -          | 14,578                          |
| 3.                        | San Francisco Bay<br>to Stockton, CA<br>(John F. Baldwin<br>and Stockton Ship<br>Channels) | New Work<br>Approp.   | 22,000    | 25,000    | -          | -          | 64,696,000 <sup>6</sup>         |
|                           |  | Cost                  | 18,236    | 18,096    | 10,859     | 7,840      | 64,207,314 <sup>7</sup>         |
| 4.                        | San Joaquin<br>River, CA   | New Work<br>Approp.   | -         | -         | -          | -          | 5,833,117 <sup>8</sup>          |
|                           |  | Cost                  | -         | -         | -          | -          | 5,833,117 <sup>9</sup>          |
|                           |  | Maint.<br>Approp.     | 4,260,000 | 351,000   | 2,607,000  | 1,970,639  | 32,435,021                      |
|                           |  | Cost                  | 3,002,863 | 1,633,119 | 2,617,123  | 1,919,481  | 32,375,450                      |
| 5.                        | American River<br>Watershed<br>(Common Elements)   | New Work<br>Approp.   | 5,828,000 | 6,738,000 | 13,129,000 | 26,622,000 | 52,367,000                      |
|                           |  | Cost-                 | 4,104,812 | 6,639,672 | 13,865,637 | 24,932,029 | 49,542,150                      |
|                           |  | New Work<br>Contrib.- | 1,325,000 | 6,099,000 | 1,121,200  | 7,477,900  | 16,023,100                      |
|                           |  | Cost-                 | 167,572   | 977,941   | 3,055,566  | 8,973,723  | 13,172,802                      |
| 6.                        | American River<br>Folsom<br>Modifications  | New Work<br>Approp.   |           |           |            | 4,690,000  | 4,690,000                       |
|                           |  | Cost-                 |           |           |            | 4,505,343  | 4,505,343                       |

**SACRAMENTO, CA, DISTRICT**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding           | FY 98     | FY 99      | FY 00     | FY 01     | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|---|-------------------|-----------|------------|-----------|-----------|---------------------------------|
|                           |   | New Work          |           |            |           |           |                                 |
|                           |   | Contrib.-         | -         | -          | -         | -         | 0                               |
|                           |   | Cost-             | -         | -          | -         | -         | 0                               |
| 6.                        | American River Watershed (Natomas)  | New Work Approp.  | 3,886,000 | 11,429,000 | 145,000   | 17,000    | 15,477,000                      |
|                           |   | Cost              | -         | 15,163,184 | 228,709   | 64,806    | 15,456,699                      |
| 7.                        | Buchanan Dam-H.V. Eastman Lake Chowchilla River, CA (Federal Funds)   | New Work Approp.  | -         | -          | -         | -         | 27,369,597                      |
|                           |   | Cost              | -         | -          | -         | -         | 27,369,597                      |
|                           |   | Maint Approp.     | 1,463,000 | 1,288,000  | 1,657,500 | 1,697,602 | 26,892,495                      |
|                           |   | Cost              | 1,276,810 | 1,457,826  | 1,657,911 | 1,696,874 | 26,874,448                      |
|                           | (Contrib. Funds Other)  | New Work Contrib. | -         | -          | -         | -         | 111,187 10                      |
|                           |   | Cost              | -         | -          | -         | -         | 111,187 10                      |
| 8.                        | Cache Creek Settling Basin, CA (Federal Funds)  | New Work Approp.0 | -         | -          | 30,000    | -         | 13,641,000                      |
|                           |   | Cost              | 3,500     | -          | -         | 16,577    | 13,625,494                      |
|                           | (Required Contrib. Funds)   | New Work Contrib. | 120,000   | -          | -         | -         | 1,279,000                       |
|                           |   | Cost              | 32,400    | 29,114     | 27,464    | 15,433    | 1,212,711                       |
|                           | (Contrib. Funds, Other)   | New Work Contrib. | -         | -          | -         | -         | 724,000 11                      |
|                           |   | Cost              | -         | -          | -         | -         | 676,755 12                      |
| 9.                        | Calaveras River and Littlejohn Creek and Tributaries including New Hogan Lake & Farmington Dam CA (Federal Funds) | New Work Approp.  | -         | -          | -         | -         | 23,723,144 13                   |
|                           |   | Cost              | -         | -          | -         | -         | 23,723,144 13                   |
|                           |   | Maint Approp.     | 4,453,000 | 1,969,000  | 2,137,900 | 2,742,504 | 43,406,015 14                   |
|                           |   | Cost              | 3,951,498 | 2,423,645  | 2,196,515 | 2,776,010 | 43,008,685 14                   |
|                           | (Contrib. Funds, Other)   | New Work Contrib. | 101,700   | -          | -         | -         | 1,499,951 15 16                 |
|                           |   | Cost              | 39,046    | 38,456     | 12,131    | -         | 1,487,884 15 17                 |
| 10.                       | Colorado River at Great Junction, CO (Federal Funds)  | New Work Approp.  | -         | -          | -73,200   | -         | 834,900                         |
|                           |   | Cost              | 38,802    | 3,828      | -33,026   | -         | 839,963                         |
|                           |   | New Work          |           |            |           |           |                                 |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project  | Funding                              | FY 98                  | FY 99                  | FY 00                  | FY 01                  | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|--|--------------------------------------|------------------------|------------------------|------------------------|------------------------|---------------------------------|
|                           | (Required Contrib.<br>Funds)                                       | Contrib.<br>Cost                     | -<br>55,856            | -<br>397               | -1,545<br>40,520       | -<br>-                 | 96,773<br>96,773                |
| 11.                       | Corte Madera<br>Creek, CA<br>(Federal Funds)                       | New Work<br>Approp.<br>Cost          | -<br>7,276             | -<br>5,113             | -<br>-                 | -<br>-                 | 12,458,725<br>12,451,883        |
|                           | (Required Contrib.<br>Funds)                                       | New Work<br>Contrib.<br>Cost         | -<br>-                 | -<br>-                 | -<br>-                 | -<br>-                 | 190,355 19<br>190,213 19        |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost         | -<br>-                 | -<br>-                 | -<br>-                 | -<br>-                 | 804,761 20<br>804,761 20        |
| 12.                       | Coyote Creek, CA   | New Work<br>Approp.<br>Cost          | -939,000<br>-778,828   | -102,000<br>74,094     | 300,000<br>113,330     | 598,000<br>342,069     | 29,062,000<br>28,594,359        |
|                           |  | New Work<br>Contrib.<br>Cost         | 100,000<br>28,851      | 155,000<br>66,964      | -<br>103,229           | -<br>4,336             | 905,000<br>886,815              |
| 13.                       | Fairfield Vicinity<br>Streams, CA<br>(Federal Funds)               | New Work<br>Approp.<br>Cost          | -<br>1,255             | -5,000<br>-            | -<br>-                 | -20,000<br>349         | 14,719,000<br>14,716,987        |
|                           | (Required Contrib.<br>Funds)                                       | New Work<br>Contrib.<br>Cost         | -<br>-                 | -<br>-                 | -<br>-                 | -<br>-                 | 592,382<br>592,381              |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost         | -<br>-                 | -<br>-                 | -<br>-                 | -<br>-                 | 3,779,000 21<br>3,770,497 22    |
| 14.                       | Guadalupe River,<br>CA   | New Work<br>Approp.<br>Cost          | 1,844,000<br>2,767,767 | 6,509,000<br>4,562,080 | 4,194,000<br>8,297,194 | 5,866,000<br>8,137,792 | 55,688,000<br>53,715,695        |
|                           | (Required Contrib.<br>Funds)                                       | New Work<br>Contrib.<br>Cost         | -<br>124,797           | 970,000<br>249,832     | 2,580,509<br>1,563,499 | 1,214,454<br>466,173   | 10,751,883<br>7,685,636         |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost         | -<br>104,222           | 1,322,000<br>582,338   | 919,491<br>1,448,545   | 1,999,152<br>540,104   | 8,340,283 23<br>6,523,087 24    |
| 15.                       | Hidden Dam<br>Hensley Lake,<br>Fresno River, CA<br>(Federal Funds) | New Work<br>Approp.<br>Cost<br>Maint | -<br>-                 | -<br>-                 | -<br>-                 | -<br>-                 | 30,555,426<br>30,555,426        |

**SACRAMENTO, CA, DISTRICT**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text  | Project  | Funding  | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost to<br>Sept. 30, 2001 |
|--|----------|----------|-----------|-----------|-----------|-----------|---------------------------------|
|  |          | Approp.  | 1,335,000 | 1,516,000 | 1,491,000 | 1,618,525 | 27,999,343                      |
|  |          | Cost     | 1,243,242 | 1,599,132 | 1,545,946 | 1,602,597 | 27,973,589                      |
| (Contrib. Funds<br>Other)  | New Work | Contrib. | -         | -         | -         | -         | 165,112 25                      |
|  |          | Cost     | -         | -         | -         | -         | 165,112 25                      |
| 16. Isabella Lake, Kern<br>River, CA<br>(Federal Funds)  | New Work | Approp.  | -         | -         | -         | -         | 24,450,537 26                   |
|  |          | Cost     | -         | -         | -         | -         | 24,450,537 26                   |
|  | Maint    | Approp.  | 5,167,000 | 967,000   | 834,810   | 1,047,795 | 48,769,322 28                   |
|  |          | Cost     | 5,443,327 | 1,107,423 | 836,005   | 1,063,610 | 48,840,983 28                   |
| Contrib. Funds,<br>Other)  | New Work | Contrib. | -         | -         | -         | -         | 753,000 29                      |
|  |          | Cost     | -         | -         | -         | -         | 747,718 30                      |
| 17. Kaweah and Tule<br>Rivers including<br>Terminus Dam and<br>Success Lake, CA<br>(Federal Funds) | New Work | Approp.  | -         | -         | 595,000   | 939,000   | 36,531,230 31                   |
|  |          | Cost     | -         | -         | 261,817   | 1,112,202 | 36,371,249 31                   |
|  | Maint    | Approp.  | 3,530,000 | 4,678,000 | 3,573,000 | 3,958,352 | 68,909,926 32                   |
|  |          | Cost     | 3,198,416 | 5,082,328 | 3,614,081 | 3,907,238 | 68,815,605 32                   |
| Contrib. Funds,<br>Other)  | New Work | Contrib. | -         | -         | -         | -         | 633,420 33 34                   |
|  |          | Cost     | -         | -         | -         | -         | 632,695 33 35                   |
| 18. Little Dell<br>Lake, UT<br>(Federal Funds)<br>(Required Contrib.<br>Funds)                     | New Work | Approp.  | 1,014,000 | -190,000  | -400,000  | -50,000   | 40,606,900                      |
|  |          | Cost     | 1,883,994 | -160,062  | -407,677  | 2,192     | 40,583,617                      |
|  | Contrib. |          | -         | -         | -         | -         | 19,954,500                      |
|  | Cost     |          | 108,704   | -484,863  | -242,644  | 50,699    | 19,072,224                      |
| (Contrib. Funds,<br>Other)   | New Work | Contrib. | -         | -         | -         | -         | 4,300,147 36                    |
|  |          | Cost     | -         | -         | -         | -         | 4,300,147 37                    |
| 19. Martis Creek Lake,<br>Martis Creek, NV,<br>and CA  | New Work | Approp.  | -         | -         | -         | -         | 8,504,989 38                    |
|  |          | Cost     | -         | -         | -         | -         | 8,504,989 38                    |
|  | Maint    | Approp.  | 471,000   | 422,000   | 521,000   | 807,878   | 10,024,261                      |
|  |          | Cost     | 365,486   | 507,462   | 551,391   | 712,912   | 9,923,308                       |
| 20. Merced County<br>Streams, CA   | New Work | Approp.  | 1,734,000 | 357,000   | 919,000   | 519,000   | 21,716,000                      |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding              | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|---|----------------------|-----------|-----------|-----------|-----------|---------------------------------|
|                           | (Federal Funds)                                   | Cost                 | 1,573,751 | 557,234   | 619,205   | 766,925   | 21,612,192                      |
|                           | (Required Contrib. Funds)                         | New Work<br>Contrib. | -         | -         | -         | 251,052   | 865,557                         |
|                           |   | Cost                 | 84,712    | 288       | -         | 274,362   | 769,362                         |
|                           | (Contrib. Funds Other)                            | New Work<br>Approp.  | -64,000   | 72,000    | -         | -         | 4,519,938 39 40                 |
|                           |   | Cost                 | 12,150    | 119,417   | 25,539    | -         | 4,560,608 39 40                 |
| 21.                       | Merced County Stream Group, CA                    | New Work<br>Approp.  | -         | -         | -         | -         | 2,751,259 41                    |
|                           |   | Cost                 | -         | -         | -         | -         | 2,751,259 41                    |
|                           |   | Maint.<br>Approp.    | 237,000   | 13,000    | 62,000    | 190,381   | 3,440,721                       |
|                           |   | Cost                 | 118,890   | 154,725   | 62,559    | 188,606   | 3,438,447                       |
| 22.                       | Napa River, CA (Federal)                          | New Work<br>Approp.  | -         | -         | 2,152,000 | 2,192,000 | 4,344,000                       |
|                           |   | Cost                 | -         | -         | 1,996,761 | 2,197,473 | 4,194,234                       |
|                           | (Contrib. Funds)                                  | New Work<br>Contrib. | -         | -         | 1,800,000 | 772,400   | 2,572,400                       |
|                           |   | Cost                 | -         | -         | 856,690   | 2,434,979 | 2,291,669                       |
| 23.                       | Pajaro River Basin CA (Federal Funds)             | New Work<br>Approp.  | -         | -         | -         | -         | 8,686,968 42                    |
|                           |   | Cost                 | -         | -         | -         | -         | 8,686,968 42                    |
|                           | (Required Contrib. Fund)                          | New Work<br>Contrib. | -         | -         | -         | -         | 37,250 43                       |
|                           |   | Cost                 | -         | -         | -         | -         | 37,250 44                       |
| 24.                       | Pine Flat Lake and Kings River, CA (Federal Fund) | New Work<br>Approp.  | -         | -         | -         | -         | 43,356,265 45                   |
|                           |   | Cost                 | -         | -         | -         | -         | 43,356,265 45                   |
|                           |   | Maint.<br>Approp.    | 2,361,000 | 3,822,000 | 2,256,000 | 2,510,166 | 53,596,212 46                   |
|                           |   | Cost                 | 2,247,942 | 3,904,638 | 2,322,568 | 1,494,767 | 53,567,994 46                   |
|                           | (Contrib. Funds, Other)                           | New Work<br>Contrib. | -         | -         | -         | -         | 110,000 47                      |
|                           |   | Cost                 | -         | -         | -         | -         | 110,000 47                      |

**SACRAMENTO, CA, DISTRICT**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project  | Funding  | FY 98  | FY 99  | FY 00  | FY 01  | Total Cost to<br>Sept. 30, 2001  |
|---------------------------|--|--|--|--|--|--|--|
| 25.                       | Redbank and Fancher Creeks, CA (Federal Funds) (Required Contrib. Funds)   | New Work Approp. Cost<br>New Work Contrib. Cost  | -<br>7,677   | -<br>4,579   | -<br>3,461   | -<br>359   | 47,516,065 48<br>47,515,727 48   |
|                           | (Contrib. Funds, Other)  | New Work Contrib. Cost   | -<br>15,271  | -<br>12,917  | -<br>6,180   | -<br>17,781  | 3,354,920<br>3,275,510   |
|                           |  |  | -  | -  | -  | -  | 759,580 49<br>701,546  |
| 26.                       | Russian River Basin, CA, Coyote Valley Dam (Lake Mendocino) and  | New Work Approp. Cost<br>Maint   | -<br>-   | -<br>-   | -<br>-   | -<br>-   | 14,435,869 50<br>14,435,869 50   |
|                           | Channel Improve-ments (Federal Funds) (Contrib. Funds, Other)  | Approp. Cost<br>New Work Contrib. Cost   | -<br>-   | -<br>-   | -<br>-   | -<br>-   | 44,777,546 51 52<br>44,777,546 51 52   |
|                           |  |  | -  | -  | -  | -  | 589,911 53<br>581,744 54   |
|                           | Dry Creek (Warm Springs) Lake and Channel Improvements, CA (Federal Funds) (Contrib. Funds, Other)                                     | New Work Approp. Cost<br>Maint<br>Approp. Cost<br>New Work Contrib. Cost                           | -<br>67,617<br>-<br>-  | 35,000<br>25,978<br>-<br>-   | 50,000<br>38,214<br>-<br>-   | -<br>29,407<br>-<br>-  | 333,283,645 55<br>333,212,431 55<br>32,915,552 56<br>31,836,635 57   |
|                           |  |  | -  | -  | -  | -  | 230,574 58<br>228,732 59   |
| 27.                       | Sacramento River and Tributaries, CA from Collinsville to Shasta Dam (Federal Funds) (Required Contrib. Funds) (Contrib. Funds, Other) | New Work Approp. Cost<br>Maint<br>Approp. Cost<br>New Work Contrib. Cost<br>New Work Contrib. Cost | 4,315,000<br>3,216,875<br>1,448,000<br>1,355,079<br>442,500<br>768,924<br>-<br>1,337 | 5,400,000<br>6,133,628<br>1,721,000<br>1,804,978<br>2,057,500<br>1,671,788<br>-<br>- | 2,803,000<br>3,405,859<br>1,899,000<br>1,915,496<br>1,860,000<br>1,167,367<br>-<br>- | 5,400,000<br>3,684,201<br>1,936,010<br>1,919,967<br>2,000,000<br>2,730,625<br>-<br>- | 149,163,000 60 61<br>148,821,036 60<br>36,163,138 62<br>36,140,087 62<br>33,284,354<br>32,402,539<br>2,927,796 63 64<br>2,925,131 63 64 65 |



**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project  | Funding   | FY 98                                | FY 99                              | FY 00                                 | FY 01                                     | Total Cost to<br>Sep. 30, 2001   |
|---------------------------|--|---|--------------------------------------|------------------------------------|---------------------------------------|---|--|
| 28.                       | San Lorenzo, CA<br>(Federal Funds)   | New Work<br>Approp.<br>Cost                             | 1,194,000<br>820,003                 | 1,606,000<br>1,620,688             | 5,546,000<br>5,285,178                | 6,702,000<br>7,095,418                    | 15,248,000<br>14,944,986   |
|                           | (Required Contrib.<br>Funds)   | New Work<br>Contrib.<br>Cost                            | -<br>-                               | 572,000<br>41,470                  | 978,669<br>801,038                    | 1,751,777<br>2,117,535                    | 3,302,446<br>2,959,743   |
| 29.                       | Upper Jordan<br>UT   | New Work<br>Approp.<br>Cost                             | 103,000<br>109,046                   | -70,000<br>172,173                 | 150,000<br>206,000                    | 270,000<br>251,675                        | 953,000<br>888,759   |
| 30.                       | Walnut Creek, CA<br>(Federal Funds)  | New Work<br>Approp.<br>Cost                             | -<br>45,505                          | 350,000<br>21,804                  | -<br>6,995                            | 475,000<br>666,933                        | 72,317,430 <sup>66</sup><br>72,179,742 <sup>67</sup>   |
|                           | (Required Contrib.<br>Funds)   | New Work<br>Contrib.<br>Cost                            | -<br>8,304                           | -<br>91                            | -<br>-                                | 75,190<br>-                               | 5,758,662 <sup>68</sup><br>5,677,857 <sup>69</sup>   |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost                            | -<br>-                               | -<br>-                             | -<br>-                                | -<br>-                                    | 14,783,553 <sup>70</sup><br>14,783,553 <sup>70</sup>   |
| 31.                       | West Sacramento  | New Work CA<br>Approp.<br>Cost                          | 6,944,000<br>2,931,333               | 618,000<br>4,000,899               | 3,093,000<br>2,911,110                | 3,898,000<br>4,212,191                    | 15,761,000<br>15,261,009   |
|                           | (Required Contrib.<br>Funds)   | New Work<br>Approp.<br>Cost                             | 300,000<br>158,191                   | 2,500,000<br>744,195               | -<br>297,663                          | 698,915<br>1,624,758                      | 4,518,915<br>2,972,396   |
| 32.                       | Wildcat and San<br>Pablo Creeks, CA<br>(Federal Funds)   | New Work<br>Approp.<br>Cost                             | -<br>11,245                          | -<br>-                             | 12,000<br>-36,689                     | -10,000<br>136                            | 20,375,000<br>20,335,520   |
|                           | (Required Contrib.<br>Funds)   | New Work<br>Contrib.<br>Cost                            | -<br>11,496                          | -<br>3,214                         | -<br>10,449                           | -<br>900                                  | 1,620,000<br>1,599,585   |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost                            | 141,000<br>-                         | -<br>-                             | -<br>-                                | -<br>-                                    | 1,937,000 <sup>71</sup><br>1,906,943 <sup>72</sup>   |
| 36.                       | Lower San<br>Joaquin River<br>and Tributaries,<br>CA including<br>Tuolumne and<br>Stanislaus Rivers,<br>CA, New Melones<br>Lake, CA<br>(Federal Funds) | New Work<br>Approp.<br>Cost<br>Maint<br>Approp.<br>Cost | -<br>3,252<br>3,001,000<br>1,366,453 | -<br>2,473<br>957,000<br>2,550,742 | -<br>19,742<br>1,721,000<br>1,778,408 | 4,300<br>12,487<br>1,659,059<br>1,659,828 | 371,147,296 <sup>73</sup> <sup>74</sup><br>371,147,084 <sup>74</sup><br>19,187,775<br>19,170,855 |
|                           | (Contrib. Funds,<br>Other)   | New Work<br>Contrib.<br>Cost                            | -<br>-                               | -<br>-                             | -<br>-                                | -<br>-                                    | 80,000 <sup>75</sup><br>80,000 <sup>75</sup>   |

1. Includes the following amounts for new work:  
Regular Funds: Previous project, \$185,198; existing

project, \$585,436 for shallow-draft and \$39,650,558 for deep-draft.

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

2. Includes the following funds for maintenance: Regular Funds: Previous project, \$553,720; existing project, \$17,224,432 for shallow-draft and \$41,383,526 for deep-draft; and deferred maintenance funds, \$70,000 for shallow Bdraft.

3. Includes the following costs for maintenance: Regular Funds: Previous project, \$553,720; existing project, \$17,224,432 for shallow-draft and \$41,194,611 for deep-draft; and deferred maintenance funds, \$70,000 for shallow draft.

4. Includes \$85,000 contributed funds, other, from Sacramento-Yolo Port District for clearing and grubbing on dredged material deposit areas to be used on ship channel maintenance dredging work.

5. Includes unobligated carryover for continuation of planning and engineering (CP&E) funds as of September 30, 1985 (\$33,474) for Sacramento River Deep Water Ship Channel to be included in project cost (for cost sharing) per TWX of September 9, 1985.

6. Includes \$28,326,800 funds for Sacramento District.

7. Includes \$28,298,863 costs for Sacramento District.

8. Includes \$1,158,348 public work funds, of which \$207,198 was for work done along 30-foot channel in Suisun Bay Channel; excludes \$19,000 expended for engineering for inactive portion of 1950 modification. In addition, \$1,342,500 was expended from required contributed funds

9. In addition, \$1,250 was expended from required contributed funds for maintenance.

10. Contributed funds, other, from State of California for design and construction of downstream channel improvements on Ash and Berenda Sloughs below Buchanan Dam.

11. Includes \$724,000 contributed funds, other, from State of California for relocation activities including demolition or salvage of various pipes and facilities, constriction of ramps, turnouts, pipe gates and bank protection at Cache Creek Settling Basin.

12. Includes \$676,755 contributed funds, other, costs for relocation activities for State of California.

13. Includes code 710 funds and costs for recreation facilities at New Hogan lake: total to date \$897,742.

14. Includes \$99,000 special recreation use fees and costs at New Hogan Lake, and \$826,600 maintenance and operation of dam funds and costs (96X5125) at New Hogan Lake beginning in FY 1988.

15. For miscellaneous construction under local

cooperation requirements, primarily for Bear Creek, San Joaquin County; includes \$108,056 as related to Duck and Littlejohn Creeks channel improvements as part of Farmington Dam project unit.

16. Includes \$393,195 contributed funds, other from California Department of Boating and Waterways for design and construction of boat launching and related facilities, and \$30,000 for design and construction of a boarding float at North Shore recreation area at New Hogan Lake.

17. Includes \$104,000 contributed funds, other, and costs from Calaveras County Water District for New Hogan hydropower studies.

18. Includes \$6,999,725 San Francisco District construction funds and costs for Corte Madera Creek.

19. \$8,695 contributed funds transferred to Sacramento District in FY 1983. Includes \$97,400 San Francisco District required contributed funds and costs.

20. Contributed funds, other, and costs, from Marin County including \$536,921 for miscellaneous bridge and road relocations and \$267,840 for additional expenses for disposal sites at Corte Madera Creek.

21. Includes \$3,643,000 contributed funds, other, from the State of California for relocation (automotive type bridge) at Laurel Creek Diversion near Fairfield, \$113,000 from City of Fairfield for Phase III contract for channel development on Laurel Creek, and \$23,000 from City of Suisun for Phase IIA contract for widening of Railroad Avenue

22. Includes \$3,638,022 contributed funds, other costs for relocations at Laurel Creek Diversion, \$19,537 contributed funds, other costs for Phase III contract, and \$112,939 for Phase IIA contract.

23. Includes contributed funds, other: \$2,905,630 for recreation betterment, \$2,195,591 for NED relocation and \$70,000 for incremental relocations at Guadalupe River.

24. Includes contributed funds, other costs: \$2,624,578 for recreation betterment, \$1,496,809 for NED relocations and \$0 for incremental relocations at Guadalupe River, and \$1,175,848 for flood control betterments.

25. Contributed funds, other from the State of California for miscellaneous design and construction at Hidden Dam.

26. Includes \$2,199,085 code 710 funds and costs for recreation facilities at Isabella lake and \$224,000 Code 713 funds and costs for improvement at Tillie Creek and Live Oak campgrounds.

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

27. Includes \$407,640 special recreation use fees and costs at Isabella Lake.

28. Includes \$131,900 maintenance and operation of dam funds and costs (96X5125) at Isabella Lake beginning in FY 1985.

29. Includes \$438,000 contributed funds, other, from California Department of Boating and Waterways for design and construction of boat launching and related facilities at Old Isabella Road and Isabella Peninsula and \$337,500 for Isabella Dam hydropower studies.

30. Includes \$438,000 contributed funds, other, costs for boat launching and related facilities at Old Isabella Road and Isabella Peninsula, and \$309,808 costs for Isabella Dam hydropower studies.

31. Includes code 710 funds and costs for recreation facilities: Success Lake: Total to date \$747,048. Terminus Dam: Total to date: \$704,000.

32. Includes \$165,000 special recreation use fees and costs at Success Lake.

33. Includes contributed funds, other, from State of California Department of Boating and Waterways and costs for acquisition of a boarding float at Success Lake, \$30,000 and at Terminus Dam, \$12,420.

34. Includes contributed funds, other, from Kaweah River Power Authority, Visalia, California for Terminus Dam hydropower studies, \$423,000; and from DITT, Inc., Paris, France, for Success Lake hydropower studies, \$168,000.

35. Includes contributed funds, other, costs for Terminus Dam hydropower studies, \$422,697, and for Success Lake hydropower studies, \$167,579.

36. Includes \$4,300,147 contributed funds, other from the Metropolitan Water District of Salt Lake City for relocation of State Highway 65 at Little Dell Lake.

37. Includes \$4,300,147 contributed funds, other, costs for relocation of State Highway 65 at Little Dell Lake.

38. Includes \$1,200 initiation of plans for specifications for Code 710 recreation facilities, for FY 1978. Construction of recreation facilities at Martis Creek Lake under Code 720 was determined to be infeasible.

39. Includes contributed funds, other \$4,572,938, for lands, easements and rights-of-way for Castle Dam from State of California and contributed funds, other costs for lands, easements and rights-of-way for Castle Dam.

40. Includes \$274,000 contributed funds, other, relocation and \$227,968 costs.

41. In addition, \$66,532 expended for new work from contributed funds, other, miscellaneous construction under local cooperation requirements as related to acquisition of right-of-way and utility alterations for Merced County Stream Group.

42. Includes \$1,949,968 San Francisco construction funds and costs and \$260,000 Sacramento general investigation funds and costs for Pajaro River.

43. Includes \$37,250 contributed funds, other, from Santa Clara Valley Water District for bridge relocation at Pajaro River.

44. Includes \$37,250 contributed funds, other, costs for bridge relocation at Pajaro River.

45. Includes code 710 funds and costs for recreation facilities at Pine Flat Lake: Total to date: \$1,595,100. Includes Public Work Acceleration, Executive (PL 87-68) (Transfer to Corps of Engineers, Civil) 1963 funds and costs (\$239,235) for recreation facilities and \$19,600 Code 713 funds and costs for Pine Flat fish barrier.

46. Includes \$158,300 special recreation fees and costs at Pine Flat Lake and \$799,785 maintenance and operation of dam funds and costs at Pine Flat Dam.

47. Miscellaneous construction and engineering and design services (non-project) accomplished at expense of State of California under local cooperation requirements in connection with acquisition of rights-of-way and utility alterations at Pine Flat Lake.

48. Includes unobligated carryover for continuation of planning and engineering (CP&E) funds as of September 30, 1985 (\$29,065) and FY 1986 allocation for Redbank and Fancher Creeks to be included in project cost (for cost sharing) per TWX of September 9, 1985.

49. Includes contributed funds, \$759,580 other, from Fresno Metropolitan Flood Control District for road relocation and betterment=s (Nees Avenue) at Fancher Dam and includes \$701,546 contributed funds, other costs for road relocation (Nees Avenue) and betterments at Fancher Dam.

50. Excludes \$5,598,000 contributed funds: \$400,000 for recreation facilities at completed projects funded under Public Works Acceleration Program; and \$1,628,411 for recreation facilities at completed projects funded under Code 711 at Coyote Valley Dam, Lake Mendocino.

51. Includes \$94,459 special recreation use fees and costs (FY 1982-1983), but excludes prior special recreation fees and cost for Coyote Valley Dam, Lake Mendocino.

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

52. Includes \$1,625,280 maintenance and operation of dam funds and costs at Coyote Valley Dam, Lake Mendocino for FY 1985 through FY 1996.

53. Includes \$251,911 contributed funds, other from City of Ukiah for Coyote Valley Dam, Lake Mendocino, hydropower studies; and \$338,000 from California department of Boating and Waterways for launching facility at Lake Mendocino.

54. Includes \$250,117 contributed funds, other, costs for Coyote Valley Dam, Lake Mendocino, hydropower studies; and \$331,657 for California Department of Boating and Waterways for launching facility at Lake Mendocino.

55. Includes \$253,421,793 San Francisco construction funds and costs through August 1983 for Dry Creek, Warm Springs Dam.

56. Includes \$964,114 San Francisco maintenance funds and costs through April 1982 for Dry Creek, Warm Springs Dam.

57. Includes \$75,400 maintenance and operations of dam funds and costs at Dry Creek, Warm Springs Dam.

58. Includes \$208,074 contributed funds, other, from Sonoma county for Dry Creek, Warm Springs, hydropower studies; and \$22,500 from City of Ukiah for hatchery pump design at Lake Mendocino.

59. Includes \$208,074 contributed funds, other, costs for Dry Creek, Warm Springs hydropower studies; and \$20,658 costs for hatchery pump design.

60. Excludes \$614,608 for Table Mountain (Iron Canyon) project, deauthorized August 5, 1977, and \$531,000 for Sacramento River and Major and Minor Tributaries portions which are considered inactive and deferred.

61. Includes Code 710 funds and cost for recreation facilities at Black Butte lake: Total to date \$1,000,162.

62. Includes \$104,100 special recreation use fees and costs at Black Butte Lake.

63. Miscellaneous construction and engineering and design services (non-project) accomplished at expense of State of California under local cooperation requirements in connection with acquisition of rights-of-way and utility alterations (primarily for Sacramento River and Major and Minor Tributaries project) Includes State

Highway Commission payment, \$789,008, for use of excess excavation from Chico and Mud Creeks and Sandy Gulch (Sacramento River and Major and Minor Tributaries) for freeway embankment through the city of Chico.

64. Includes \$41,984 contributed funds, other, from State of California for required modification of existing private facilities and salmon rearing habitat, Sacramento River, Chico Landing to Red Bluff; \$15,977 contributed funds, other, from State of California Department of Boating and Waterways for replacing a boarding float at Orland Buttes boat launching ramp at Black Butte Lake; \$392,000 contributed funds, other, from the City of Santa Clara for hydropower studies at Black Butte Lake; and \$59,334 contributed funds, other from State of California for relocation.

65. Includes \$389,335 contributed funds, other, costs for Black Butte hydropower studies; and \$59,334 costs for relocations.

66. Includes \$8,849,825 San Francisco construction funds for Walnut Creek.

67. Includes \$9,049,609 San Francisco construction costs for Walnut Creek.

68. Includes \$450,268 San Francisco required funds for Walnut Creek.

69. Includes \$525,846 San Francisco required costs for Walnut Creek.

70. Includes \$400,348 San Francisco contributed funds, other, and contributed funds costs for Walnut Creek.

71. Includes \$1,937,000 contributed funds, other, from Contra Costa Flood Control and Water Conservation District for replacement of sewerline in Richmond for Wildcat and San Pablo Creeks project.

72. Includes \$1,906,943 contributed funds, other, costs for replacement of sewerline in Richmond for Wildcat and San Pablo Creeks project.

73. Excludes funds applicable to other units of this basin authorization (Lower San Joaquin River and Tributaries, and Tuolumne River Basin, California). (See Table 35-E).

74. Includes \$110,000 utilized for preparation of

**TABLE 35-A (Cont'd)    COST AND FINANCIAL STATEMENT**

1957 Economic Feasibility Report and of Revised Feasibility Report (FY 1960, 1961, and 1962) applicable to 1962 reauthorization of project.

costs, from the Bureau of Reclamation for visitors center at Mark Twain area, New Melones Lake.

75. Includes \$80,000 contributed funds, other, and

**SACRAMENTO, CA, DISTRICT**

**TABLE 35-A COST AND FINANCIAL STATEMENT  
PRECONSTRUCTION ENGINEERING AND DESIGN**

| See<br>Section<br>in Text | Project                         | Funding             | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|---------------------------------|---------------------|-----------|-----------|-----------|-----------|---------------------------------|
|                           | American River Watershed CA,    | New Work<br>Approp. | 1,181,000 | 166,375   | 4,290,000 | 3,629,000 | 26,388,375                      |
|                           |                                 | Cost                | 814,296   | 642,786   | 4,022,524 | 3,863,698 | 26,308,436                      |
|                           | Caliente Creek CA               | New Work<br>Approp. | -         | -         | -         | -         | 60,000                          |
|                           |                                 | Cost                | -         | -         | -         | -         | 60,000                          |
|                           | Coyote and Berryessa Creeks, CA | New Work<br>Approp. | -         | -         | -         | -         | 4,368,900                       |
|                           |                                 | Cost                | 12        | -         | -         | -         | 4,368,900                       |
|                           | Napa River, CA                  | New Work<br>Approp. | 1,161,000 | 1,294,000 | -123,000  | -         | 12,947,000                      |
|                           |                                 | Cost                | 1,138,074 | 1,082,132 | 155,246   | -100      | 12,946,900                      |
|                           | Kaweah River                    | New Work<br>Approp  | 1,182,930 | 1,182,070 | 651,000   | -36,000   | 3,515,000                       |
|                           |                                 | Cost                | 970,790   | 1,210,598 | 751,360   | 67,895    | 3,515,000                       |
|                           | Yuba River, CA                  | New Work<br>Approp  | 11,000    | 39,000    | 100,000   | 410,000   | 560,000                         |
|                           |                                 | Cost                | 3,338     | 41,628    | 39,197    | 457,007   | 359,110                         |
|                           | South Sacramento                | New Work<br>Approp  | 161,000   | 788,000   | 750,000   | 615,000   | 2,314,000                       |
|                           |                                 | Cost                | 63,108    | 788,291   | 665,701   | 152,313   | 1,669,413                       |
|                           | San Lorenzo River, CA           | New Work<br>Approp. | -         | -         | -         | -         | 813,000                         |
|                           |                                 | Cost                | 27        | -         | -         | -         | 730,243                         |
|                           | Truckee Meadows NV              | New Work<br>Approp. | 662,800   | 1,237,000 | 936,000   | 900,000   | 7,523,330                       |
|                           |                                 | Cost                | 380,752   | 1,260,208 | 982,814   | 909,629   | 7,320,933                       |
|                           | Tule River Basins               | New Work<br>Approp. | -         | 30,000    | -15,000   | 242,000   | 257,000                         |
|                           |                                 | Cost                | -         | 7,913     | 2,085     | 214,422   | 224,420                         |
|                           | Upper Jordan River, CA          | New Work<br>Approp. | -         | -         | -         | -         | 1,576,000                       |
|                           |                                 | Cost                | 50        | -         | -         | -         | 1,576,000                       |
|                           | West Sacramento CA              | New Work<br>Approp. | -         | -         | -         | -         | 1,817,000                       |
|                           |                                 | Cost                | -         | -         | -         | -         | 1,817,000                       |

1. Beginning in FY 1982, Advance Engineering and Design (Preconstruction, Engineering and Design) programs are funded under General Investigations Appropriations.

2. Includes FY 1985 unobligated carryover and FY 1986

3. Excludes \$2,639,955 funds and costs for a previous flood control project on Napa River. (See Table 35-E).

allocation for CP&E funds and all AE&D funds to be included in project cost (for cost sharing) per TWX of September 9, 1985.

**TABLE 35-B (Cont'd) AUTHORIZING LEGISLATION**

| See<br>Section<br>in Text | Date<br>Authorizing<br>Act | Project and Work Authorized  | Documents   |
|---------------------------|----------------------------|--|---|
| 1.                        |                            | <b>SACRAMENTO RIVER, CA</b>  |   |
|                           | Mar 3, 1899                | A depth of 7 feet below Sacramento works.  | H. Doc. 186, 55th Cong., 2d sess., and 48 55th Cong., 3d sess. (Annual Report 1898, p. 2844 and 1899, p. 3171). |
|                           | July 25, 1912              | For work above Sacramento.   | H. Doc. 76, 62d Cong., 1st sess. 1  |
|                           | Jan 21, 1927               | The 10-foot channel up to Sacramento   | H. Doc. 123, 69th cong., 1st sess.  |
|                           | Aug 30, 1935               | A depth of 6 feet between Sacramento and Colusa and 5 feet between Colusa and Chico Landing at a cost of \$390,000 provided flow of rivers is increased to minimum flow of 5,000 cubic feet per second after Shasta Reservoir is built.  | Rivers and Harbors Committee Doc. 35, 73d Cong., 2d sess.   |
|                           | Aug 30, 1935               | Authority for a special direct participation of Federal Government of \$12 million in cost of Shasta Reservoir.  | Rivers and Harbors Committee Doc 35, 73d Cong., 2d sess.  |
|                           | Aug 26, 1937               | Transfer of authority for expenditure of above \$12 million from Secretary of War to Secretary of the Interior.  |   |
|                           | July 24, 1946              | Modified existing navigation project for Sacramento River, CA, to provide for construction of a ship channel 30 feet deep and 200 to 300 feet wide from deep water in Suisun Bay to Washington Lake, including such works as may be necessary to compensate for or alleviate any detrimental salinity conditions resulting from ship channel; a triangular basin of equal depth, 2,400 by 2,000 by 3,400 feet at Washington Lake; and connecting channel 13 feet deep and 120 feet wide, with lock and drawbridge, thence to Sacramento River. | S. Doc. 142, 79th Cong., 2d sess.   |
|                           | Nov 17, 1987               | Deauthorization of shallow-draft channel, Colusa to Red Bluff, feature of project for navigation, Sacramento River, California.  | Sec. 1002, 1986 WRDA  |
|                           | Dec 11, 2000               | Reauthorization of Sacramento River, Major and Minor Tributaries and Chico Landing to Red Bluff, CA  | Sec 350 (a) (1-2), WRDA 2000  |

TABLE 35-B (Cont'd)

## AUTHORIZING LEGISLATION

| See<br>Section<br>in Text | Date<br>Authorizing<br>Act | Project and Work Authorized  | Documents                           |
|---------------------------|----------------------------|--|-------------------------------------|
| 10.                       |                            | <b>CORTE MADERA CREEK, CA</b>  |                                     |
|                           | Oct 23, 1962               | Levees and channel improvements, lower 11 miles of Corte Madera Creek and tributaries, as modified by Chief of Engineers.  | H. Doc. 545, 87th Cong., 2d sess.   |
|                           | Nov 7, 1966                | Local cooperation requirements modified to provide 1.5 percent cash contribution toward cost of Ross Valley unit.  | Sec. 204, 1966 Flood Control Act.   |
|                           | Nov 17, 1986               | Modify existing project to direct construction of Unit 4 from Lagunitas Road Bridge to Sir Francis Drake Boulevard, and to include construction of flood-proofing measures in vicinity of Lagunitas Road Bridge to insure proper functioning of completed portions of authorized project. Further modify project to eliminate any channel modifications upstream of Sir Francis Drake Boulevard. | Sec 823, 1986 WRDA                  |
| 23.                       |                            | <b>RUSSIAN RIVER BASIN, CA</b>   |                                     |
|                           | May 17, 1950               | Coyote Valley Dam (Lake Mendocino): Channel improvements on lower 98 miles of Russian River and lower reaches of tributaries.  | H. Doc. 585, 81st Cong., 2d sess.   |
|                           | Feb 10, 1956               | Increased appropriation authorization for initial stage of project development.  | PL 404, 84th cong., 2d sess.        |
|                           | Oct 23, 1962               | Dry Creek (Warm Springs) Lake: Channel Improvements on Dry Creek below dam.  | H. Doc. 547, 87th Cong., 2d sess.   |
|                           | Mar 7, 1974                | Dry Creek (Warm Springs) Lake and channel; compensate for fish losses on the Russian River which may be attributed to the operation of the Coyote Dam component of the project through measures such as possible expansion of the capacity of the fish hatchery at the Warm Springs Dam component of the project.  | Sec. 95, 1974 WRDA                  |
| 24.                       |                            | <b>SACRAMENTO RIVER AND TRIBUTARIES, CA, FROM COLLINSVILLE TO SHASTA DAM</b>   |                                     |
|                           | Dec 22, 1944               | Modify Sacramento River Flood Control Project to provide for extensions in levees and other structures along Sacramento River and major and minor tributaries; construct Black Butte Dam and Reservoir; construct low-level Table  | H. Doc. 649, 78th Cong., 2d sess. 2 |



**TABLE 35-B (Cont'd) AUTHORIZING LEGISLATION**

| See<br>Section<br>in Text | Date<br>Authorizing<br>Act | Project and Work Authorized  | Documents  |
|---------------------------|----------------------------|--|--|
|                           |                            | Mountain Dam and Reservoir with power facilities; and provision of monetary authorization of \$15 million for initiation of modification.  |  |
|                           | May 17, 1950               | Improvements for protection of Upper Butte Basin (included full monetary authorization).   | H. Doc. 3667, 81st cong., 1st sess. <sup>2</sup> |
|                           | Jul 3, 1958                | Extend existing Sacramento River Flood Control Project to Keswick Dam for purposes of zoning area below dam and modification of project by construction of bank protection and incidental channel improvements between Chico Landing and Red Bluff (included full monetary authorization). | H. Doc. 272, 84th Cong., 2d sess. <sup>2</sup>   |
|                           | Jul 3, 1958                | Additional authorization of \$17 million for comprehensive plan approved in act of December 22, 1944.  |  |
|                           | Jul 14, 1960               | Further modification of Sacramento River Flood Control Project by construction of initial 10-year phase of bank erosion control works and setback levees on Sacramento River and authorization of \$14,240,000 for prosecution of modification.  | S. Doc. 103, 80th Cong.,                         |
|                           | May 12, 1967               | Additional authorization of \$7 million for bank protection approved in act of July 14, 1960.  | PL 90-17   |
|                           | Mar 7, 1974                | Initiation of construction of second phase of bank erosion control works and setback levees on Sacramento River as approved in act of July 14, 1960, and additional authorization of \$16 million for such purpose. <sup>3</sup>   | PL 93-251  |
|                           | Jun 19, 1975               | Deauthorization of Table Mountain Dam and Reservoir. <sup>4</sup>  | H. Doc. 94-192, 94th Cong., 1st sess.            |

1. Contains latest published map of section above Sacramento. For map of section below Sacramento, see H. Doc. 1123, 60<sup>th</sup> Cong., 2d sess. And S. Doc. 142, 79<sup>th</sup> cong., 2d sess.

2. Contains latest published map.

3. Total monetary authorization available, exclusive

of preauthorization studies from general investigations appropriations, amount to \$72,740,000

4. The 90-day Congressional project review period, required by sec. 12, PL 93-251, as amended by sec. 157, PL 94-587, ended August 5, 1977, and resulted in deauthorization of project unit.

**TABLE 35-C OTHER AUTHORIZED NAVIGATION PROJECTS**

| Project                                     | Status    | For Last<br>Full Report<br>See Annual<br>Report For Construction | Cost to Sep. 30, 2001         |                              |
|---|-----------|--|-------------------------------|------------------------------|
|   |           |  |                               | Operation and<br>Maintenance |
| Feather River, CA                           |           | 1951   | -                             | \$5,752 <sup>1 2</sup>       |
| Middle River and Connecting<br>Channels, CA | Completed | 1974   | \$8,354 <sup>3</sup><br>8,500 | 93,494                       |
| Mokelumne River, CA                         | Completed | 1974   | 2,132 <sup>5 6</sup>          | 189,152                      |
| Navajo Reservoir, NM                        | Completed | -  | 23,185 <sup>7</sup>           | -                            |
| Old River, CA                               | Completed | 1970   |                               |                              |
| Stockton and Mormon<br>Channels, CA         | Completed | 1970   | 253,151 <sup>8</sup>          | 9631,128                     |
| Suisun Bay Channel, CA                      | Completed | 1974   | 200,928 <sup>9 10 11</sup>    | 218,854                      |
| Suisun Channel, CA                          | Completed | 1973   | 217,677                       | 3,316,622 <sup>12 13</sup>   |
| Suisun Point Channel, CA                    | Completed | 1965   | 191,728 <sup>5 15</sup>       | 733,489                      |
|   |           |  |                               | -                            |

1. Maintenance project, channels adequate for commerce.

2. Includes \$10 for maintenance for previous project. Excludes \$6,160 for previous project and \$3,840 for existing project for maintenance expended from contributed funds.

3. Includes \$1,600 for previous project.

4. Includes \$790 for previous project.

5. Authorized by Chief of Engineers under authority of sec. 107, Public Law 86-645, as amended.

6. All costs transferred from Los Angeles District in FY 1968.

7. Estimated cost to local interests was \$3,6000 for lands, damages and public landings. Remaining portion of project, consisting of side channel at Orwood and completion of project channels from mouth of Old River to Lammers Ferry road and from Crocker Cut to Holly Sugar Factory was deauthorized November 17, 1986, by WRDA of 1986.

8. Upon completion of Mormon Slough, Calaveras River, CA in February 1970, local interests accepted

maintenance responsibility for Mormon Slough as well as for Stockton and Mormon Channels CA, and Federal maintenance was discontinued. No Federal maintenance costs have been incurred since FY 1969.

9. Includes \$58,901 for previous project.

10. Excludes \$59,551 expended from required contributed funds for previous project.

11. Excludes work accomplished under existing project at a cost of \$207,198 from Public Works Administration funds allotted to San Joaquin River, CA.

12. Includes \$59,817 for previous projects. Excludes \$5,449 expended from required contributed funds for previous project.

13. Maintenance responsibility transferred to San Francisco District, January 1, 1974.

14. Includes reconnaissance and condition surveys of \$5,496 and \$483 for fiscal year 1963 and 1964, respectively.

15. Estimated cost (July 1964) to local interests was \$12,000 for lands, damages, and spoil retention dikes.

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001**

**TABLE 35-C OTHER AUTHORIZED NAVIGATION PROJECTS**

| Project   | Status    | For Last<br>Full Report<br>See Annual<br>Report For | Cost to Sep. 30, 2001      |                              |
|---|-----------|---|----------------------------|------------------------------|
|   |           |   | Construction               | Operation and<br>Maintenance |
| Alameda Creek, CA   | Completed | 1978  | \$26,995,350               | \$54,778 <sup>1 2</sup>      |
| American River, CA  | Completed | 1959  | 2,125,818 <sup>3</sup>     | -                            |
| Aquatic Plant Control, CA   | Completed | 1967  | 1,000                      | -                            |
| Big Dry Creek Dam and<br>Diversion, CA  | Completed | 1955  | 1,369,931 <sup>4</sup>     | -                            |
| Big Wash, Milford, Beaver<br>County, UT   | Completed | 1961  | 217,879 <sup>5 6</sup>     | -                            |
| Burch Creek, Weber County, UT   |           | 1964  | 26,049 <sup>5</sup>        | -                            |
| Cache Creek Basin, CA<br>(Outlet Channel)   | Active    | 1993  | <sup>7</sup>               | -                            |
| Chester, CA   | Active    | 1981  | 3,570,000 <sup>8</sup>     | -                            |
| Cottonwood Creek, CA  | Active    | 1991  | 15,765,000                 | -                            |
| Coyote Creek, CA  | Completed | 1968  | 705,622 <sup>1 5</sup>     | -                            |
| Duck Creek, San Joaquin<br>County, CA   | Completed | 1967  | 664,825 <sup>5 9</sup>     | -                            |
| East Weaver Creek, CA   | Completed | 1965  | 220,636 <sup>1 5 10</sup>  | -                            |
| Folsom Lake, American River, CA   | Completed | 1957  | 63,014,810 <sup>11</sup>   | -                            |
| Green Valley Creek, Solano<br>County, CA  | Completed | 1963  | 136,026 <sup>5 12</sup>    | -                            |
| Kays Creek, UT  | Completed | 1973  | 407,989 <sup>5 13</sup>    | -                            |
| Kern River-California Aqueduct<br>Intertie, CA  | Completed | 1977  | 1,503,073 <sup>5 14</sup>  | -                            |
| Klamath River, CA   | Completed | 1972  | 4,838,000 <sup>5</sup>     | -                            |
| Lake Camanche, CA   | Completed | 1976  | 10,252,950 <sup>15</sup>   | -                            |
| Lake Oroville, CA   | Completed | 1981  | 70,425,470 <sup>16</sup>   | -                            |
| Lower San Joaquin River and<br>Tributaries, including Tuolumne<br>and Stanislaus Rivers, CA | Completed | 1976  | 27,835,263 <sup>17</sup>   | -                            |
| Marysville Lake, CA   | Active    | 1980  | - <sup>17</sup>            | -                            |
| Merced River, CA  | Completed | 1976  | 10,918,796 <sup>19</sup>   | -                            |
| Middle Creek, CA  | Completed | 1967  | 2,643,499 <sup>20</sup>    | -                            |
| Mormon Slough, CA   | Completed | 1976  | 2,965,402 <sup>21</sup>    | -                            |
| Napa River Basin, CA  | Active    | 1979  | 2,639,955 <sup>1 22</sup>  | -                            |
| New Bullards Bar, CA  | Completed | 1972  | 12,890,625 <sup>23</sup>   | -                            |
| North Fork, Pit River at<br>Alturas, CA   | Completed | 1972  | 904,278 <sup>5 24 25</sup> | -                            |
| Pinole Creek, CA  | Completed | 1968  | 885,750 <sup>1 5</sup>     | -                            |
| Redwood Creek, Humboldt<br>County, CA   | Completed | 1970  | 4,620,070 <sup>1 26</sup>  | -                            |
| Reese River, Battle Mountain, NV  | Completed | 1969  | 133,339 <sup>5 27</sup>    | -                            |
| Rheem Creek, CA   | Completed | 1962  | 400,000 <sup>1 5 28</sup>  | -                            |
| Rodeo Creek, CA   | Completed | 1966  | 974,100 <sup>1 5</sup>     | -                            |
| Salinas River, CA   | Inactive  | 1952  | 94,213 <sup>1 29</sup>     | -                            |
| Salt Lake City, Jordan River, UT  | Completed | 1961  | 1,227,570 <sup>30</sup>    | -                            |
| San Leandro Creek, CA   | Completed | 1973  | 1,000,000 <sup>1 31</sup>  | -                            |

**TABLE 35- E      OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

| Project                                     | Status    | For Last                                | Cost to Sep. 30, 2001     |                              |
|---|-----------|---|---------------------------|------------------------------|
|   |           | Full Report<br>See Annual<br>Report For | Construction              | Operation and<br>Maintenance |
| San Lorenzo Creek, CA                       | Completed | 1962                                    | 5,130,821 <sup>1 32</sup> | -                            |
| San Lorenzo River, CA                       | Completed | 1966                                    | 4,314,406 <sup>1 33</sup> | -                            |
| Sevier River near Redmond, UT               | Completed | 1952                                    | 919,000 <sup>1 34</sup>   | -                            |
| Sonoma Creek, CA                            | Inactive  | 1973                                    | 781,500 <sup>1 35</sup>   | -                            |
| Truckee River and Tributaries,<br>CA and NV | Active    | 1968                                    | 1,038,960                 | -                            |

1. Project responsibility transferred from San Francisco District to Sacramento District April 1, 1982.

2. Scheduling of reservoir operations costs.

3. Excludes \$54,919 other contributed funds for miscellaneous construction for local interests pursuant to requirements of local cooperation were \$951,000 (1959) for lands and relocations.

4. Excludes \$44,008 other contributed funds for construction in connection with bridge construction pursuant to requirements of local cooperation. Total cost to local interests for all requirements of local cooperation was \$370,000 (9159) for lands and relocations.

5. Authorized by Chief of Engineers under authority of sec. 205, Public Law 80-858, as amended.

6. Excludes \$22,000 for preauthorization studies.

7. Project not economically feasible; preconstruction planning was terminated in FY 1993.

8. Excludes \$69,262 other contributed funds from State of California for two low water crossings and appurtenances at Chester. A fish ladder modification project was continued under sec. 1135 in FY 2001 at fiscal year cost of \$38,765.

9. Excludes \$50,000 for preauthorization studies. Estimated costs to local interests were \$665,000 for lands and damages including relocations.

10. Includes \$174,938 Public Works Acceleration Program Funds.

11. Transferred to Bureau of Reclamation in May 1956 for operation and maintenance by that agency in conjunction with other units of Central Valley project.

12. Excludes \$20,000 for preauthorization studies.

13. Includes \$30,000 for preauthorization studies. Estimated costs (FY 1973) to local interest for all requirements of local cooperation were \$150,117 for lands and damages including relocation.

14. Includes \$73,000 for preauthorization studies. Non-Federal (Kern County Water Agency) cost for road relocation was \$18,260 (required contributed funds).

15. Constructed by East Bay Municipal Utility District. Final Federal contribution of \$51,202 made July 18, 1978 (total \$10,111,684). Non-Federal costs \$34,988,53616.

16. Constructed by State of California. Final Federal contribution of \$64,186 was made on February 9, 1981 (total \$69,994,105) for flood control reservation.

17. Cherry Valley and New don Pedro Reservoirs constructed by local interests. Federal contribution of \$9,000,000 and \$5,464,000, respectively, for flood control reservation. Final Federal contribution of \$308,898 was made on January 18, 1972, for New don Pedro. Excludes \$3,004,946, contributed funds, other, for miscellaneous engineering and construction (non-project) at local interest expense under local cooperation requirements for acquisition of rights-of-way for levee and channel improvement on Lower San Joaquin River and Tributaries. Unconstructed portion of snagging and clearing project modification of Lower San Joaquin River and Tributaries) was classified as "deferred" on April 9, 1993. For full report see Annual Report for FY 1993.

18. Planning and any future development is uncertain awaiting State of California=s position on support of Marysville project.

19. Constructed by Merced Irrigation District, Final Federal contribution of \$839 was made December 2, 1975 (total \$10,818,638) for flood control reservation.

20. Estimated costs (FY 1967) to local interests for all requirements of local cooperation were \$1,340,000 for lands and damages including relocation.

21. Non-Federal cost \$2,965m402 (FY1976) for lands and relocations. Federal contribution of \$599,336 made to State Reclamation Board.

22. This project was reclassified as "active" on August 3, 1987.

23. Constructed by Yuba County Water Agency.

**TABLE 35-E (Cont'd) OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

Final Federal contribution of \$33,470 was made in FY 1972 (total \$12,759,127) for flood control reservation.

24. Includes \$41,800 for preauthorization studies.

25. Excludes \$146,000 other contributed funds for miscellaneous construction and engineering and design services under local cooperation requirements in connection with acquisition of rights-of-way, relocation and utility alterations.

26. Includes \$107,000 costs for remedial work to drainage system completed in FY 1977.

27. Includes \$52,549 contributed funds.

29. Cost includes engineering and design prior to June 30, 1952 and costs of \$4,288 (FY 1962-1963) to determine if project classification to an active category was justified.

30. Estimated cost to local interest for all

requirements of local cooperation were \$463,000 (July 1962) for lands and damages including relocations. Project prevented \$4,544,000 in damages from the April-May 1994 snowmelt runoff.

31. Excludes \$285,329 contributed funds.

32. Excludes \$200,000 estimated value of work performed in lieu of cash contribution.

33. Excludes \$421,182 contributed funds.

34. Excludes \$48,000 required contributed funds toward first cost. Costs to local interests for all requirements of local cooperation, including required contributions, were \$118,000 (1951). Project prevented \$9,000 in damages from the April-May 1994 snowmelt runoff.

35. Place inactive 1974.

**SACRAMENTO, CA DISTRICT**

**TABLE 35-G DEAUTHORIZED PROJECTS**

| Project  | For Last<br>Full Report<br>See Annual<br>Report For | Date<br>Deauthorized | Federal<br>Funds<br>Expended | Contributed<br>Funds<br>Expended |
|--|---|----------------------|------------------------------|----------------------------------|
| Alhambra Creek, CA                                 | 1981  | 1986                 | \$300,000                    | -                                |
| Bear River, CA                                     | 1980  | 1986                 | -                            | -                                |
| Cottonwood Creek                                   | 1991  | 1998                 | 15,765,000                   | - 2/                             |
| Eel River, CA                                      | 1971  | 1986                 | 1,272,816                    | -                                |
| Gleason Creek, NV                                  | 1977  | 1986                 | 215,826                      | -                                |
| Humbolt River and<br>and Tributaries, NV           | 1982  | 1986                 | 1,532,932                    | -                                |
| Lakeport Lake, CA 1                                | 1976  | 1993                 | 2,353,000                    | -                                |
| Little Valley Wash, Magna, UT                      | 1951  | 1977                 | -                            | -                                |
| Lower San Joaquin River<br>and Tributaries, CA     | 1993  | 1998                 | 27,835,263                   | - 2/                             |
| Mad River Basin, CA                                | 1973  | 1986                 | 4,243,750                    | -                                |
| Spanish Fork River, UT                             | 1955  | 1977                 | 20,000                       | -                                |
| Weber River and Tributaries, UT<br>(Morgan County) | 1974  | 1972                 | 75,120                       | -                                |
| Wildcat and San Pablo Creek<br>Reach 2, CA         | 1997  | 1998                 | -                            | -                                |

1. Lakeport Lake was deauthorized on November 17, 1988; and deauthorized November 18, 1993.

2. Requested reauthorization March 2001.

**TABLE 35-H**

**SACRAMENTO RIVER, CA:  
TIDAL AND FLOOD CONDITIONS PREVAILING  
(See Section 1 of Text)**

1. Mean lower low water to mean higher high water.
2. Tide at low water season only.
3. Mean lower low water to flood stage.
4. Extreme low water to indicated flood condition.

|                   | Federal                              | Non-Federal <sup>2</sup>      |                               |   |             |                  |
|-------------------|--------------------------------------|-------------------------------|-------------------------------|---|-------------|------------------|
| Modification      | Corps of Engineers<br>(Construction) | Coast Guard<br>(Construction) | Required Cash<br>Contribution | Lands and<br>Damages (including<br>Relocations) | Total       | Total<br>Project |
| prior to 1950     |                                      |                               |                               |   |             |                  |
| Modification      | \$4,009,938                          | \$80,000                      | \$1,307,500                   | \$1,042,000                                     | \$2,349,500 | \$6,439,438      |
| 1950 Modification | 1,823,179                            | -                             | 35,000                        | 135,00  | 170,000     | 1,993,170        |
| Total             | 5,833,117                            | 80,000                        | 1,342,500                     | 1,177,000                                       | 2,519,500   | 8,432,617        |

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**SACRAMENTO, CA DISTRICT**

**TABLE 35-J** **SAN JOAQUIN RIVER, CA:**  
**PROJECT UNITS (1950 MODIFICATION) RECLASSIFIED AND**  
**EXCLUDED FROM PROJECT COST<sup>1</sup>**  
**(See Section 4 of Text)**

| Unit  | Federal<br>Corps of<br>Engineers | Required<br>Cash<br>Contributions | Non-Federal<br>Lands and<br>Damages (includ-<br>ing Relocations) | Total     | Total<br>Project |
|---|----------------------------------|-----------------------------------|--|-----------|------------------|
| Settling Basin above head<br>of Burns Cutoff <sup>1</sup>                                   | \$1,073,000                      | \$30,000                          | \$200,000  | \$230,000 | \$1,303,000      |
| Burns Cutoff improvement;<br>new turning basin; dredg-<br>ing Mormon Channel <sup>2 5</sup> | 7,882,000 <sup>3</sup>           | 431,000                           | 1,455,000  | 1,886,000 | 9,768,000        |
| Upper Stockton Channel<br>enlargement <sup>4 5</sup>  | 535,000                          | 34,000                            | 15,000   | 49,000    | 584,000          |

1. July 1959 price index. Deauthorized August 5, 1977.

2. Deferred; July 1960 price index.

3. For lands and construction.

4. Deleted by 1965 River and Harbor Act authorization

of San Francisco Bay to Stockton Channel, Sacramento  
District, Improvement No. 3.

5. Deauthorized November 17, 1986.

**TABLE 35-K** **MERCED COUNTY STREAM GROUP, CA**  
**MAXIMUM INFLOW, STORAGE, AND OUTFLOW FOR PROJECTS**  
**(See Section 19 of Text)**

| Stream   | Maximum<br>Inflow<br>(c.f.s.)<br>(hourly) | Maximum<br>Storage<br>(acre-feet) | Maximum<br>Outflow<br>(c.f.s.) |
|----------|---|-----------------------------------|--------------------------------|
| Burns    | 1,529                                     | 309                               | 1,233                          |
| Bear     | 1,798                                     | 509                               | 1,067                          |
| Owens    | 386                                       | 182                               | 97                             |
| Mariposa | 1,976                                     | 1,582                             | 586                            |



**TABLE 35-L RUSSIAN RIVER BASIN, CA: ESTIMATED COST FOR NEW WORK**  
(See Section 23 of Text)

| Project Feature                     | Federal       | Estimated Cost<br>Non-Federal<br>Contribution | Total                     |
|-------------------------------------|---------------|---|---------------------------|
| Coyote Valley Dam (Lake Mendocino): |               |   |                           |
| Channel Improvements below Dam      |               |   |                           |
| on lower 98 miles of Russian River  | 14,436,000    | \$5,598,000                                   | \$20,034,000 <sup>1</sup> |
| Dry Creek (Warm Springs) Lake and   |               |   |                           |
| Channel Improvements below Dam      | 259,240,000   | 103,777,000 <sup>2</sup>                      | 363,017,000               |
| Total                               | \$273,676,000 | \$109,375,000                                 | \$383,051,000             |

1. Exclusive of \$1,628,000 for recreation facilities at completed projects.

2. Reimbursement by local interests to Federal Government for costs allocated to water supply storage

to be paid over a period not to exceed 50 years after use of storage is initiated and inclusive of lands and damages.

**TABLE 35-N SACRAMENTO RIVER AND TRIBUTARIES, CA, COLLINSVILLE TO SHASTA DAM:**  
**PROJECT UNITS RECLASSIFIED AND EXCLUDED FROM COST ESTIMATE**  
(See Section 24 of Text)

| Unit                           | Current<br>Classification | Federal     | Estimated Cost<br>Non-Federal <sup>1</sup> | Total       |
|--------------------------------|---------------------------|-------------|--|-------------|
| 1944 Modification:             |                           |             |  |             |
| Antelope Creek <sup>2</sup>    | Inactive                  | \$1,400,000 | \$340,000                                  | \$1,740,000 |
| Lower Butte Basin <sup>3</sup> | Deferred                  | 7,286,000   | 2,285,000                                  | 9,571,000   |
| Thomas Creek <sup>2</sup>      | Deferred                  | 1,140,000   | 140,000                                    | 1,280,000   |
| Willow Creek <sup>2</sup>      | Inactive                  | 1,290,000   | 120,000                                    | 1,410,000   |
| Bypass Levees <sup>4</sup>     | Deferred                  | 7,100,000   | 940,000                                    | 8,040,000   |
| Bypass Levees <sup>4</sup>     | Inactive                  | 3,010,000   | -  | 3,010,000   |
| 1950 Modification:             |                           |             |  |             |
| Upper Butte Basin <sup>2</sup> | Deferred                  | 3,530,000   | 1,787,000                                  | 5,317,000   |

1. For lands and damages, including relocation.

2. July 1960 price level.

3. Excludes work applicable to extension of Moulton

weir (July 1954 price level).

4. July 1961 price level.

SACRAMENTO, CA DISTRICT

**TABLE 35-O                      SACRAMENTO RIVER AND TRIBUTARIES, CA,  
COLLINSVILLE TO SHASTA DAM:  
CONSTRUCTION ACCOMPLISHED AND CONTRACT COSTS  
(See Section 24 of Text)**

| Contract   | Federal   | Required<br>Contributed | Total     |
|--|-----------|-------------------------|-----------|
| Contract 42A continuation (Bank protection,<br>miles 88.8-143.3, Sacramento River,<br>Sacramento, Colusa, Sutter and<br>Yolo Counties) | \$803,695 | \$152,641               | \$956,336 |
| Lower American River - River Park<br>initiation (Bank Protection,<br>Sacramento County).   | 500,000   | 0                       | 500,000   |

**TABLE 35-P                      FLOOD CONTROL WORK UNDER SPECIAL  
AUTHORIZATION FLOOD CONTROL ACTIVITIES  
PURSUANT TO SECTION 205, PUBLIC LAW 80-858  
AS AMENDED (PREAUTHORIZATION)  
(See Section 32 of Text)**

| Study   | Stage                      | Fiscal Year<br>Cost<br>(Federal) |
|---|----------------------------|----------------------------------|
| City of Folsom Willow & Humlong Creek             | Reconnaissance             | 706                              |
| Colorado River at Grand Junction, CO <sup>1</sup> | Construction               | \$ 0                             |
| Battle Mountain, NV                               | Plans and Specification    | 57,499                           |
| Fallon, NV  | Reconnaissance/Feasibility | 442                              |
| Hamilton City, CA                                 | Reconnaissance             | 0                                |
| Legewood Creek, Fairfield, CA                     | Reconnaissance             | 75                               |
| Magpie and Don Julio Creeks, CA                   | Plans and Specifications   | 197,015                          |
| North Cache Creek Slide, CA                       | Feasibility                | 38,071                           |
| Reno Flood Warning System                         | Reconnaissance/Feasibility | 30,109                           |
| Rock Creek and Keefer Slough                      | Reconnaissance             | 278,831                          |
| Tehama, CA  | Reconnaissance             | 74,107                           |
| Winters, CA                                       | Plans and Specification    | <u>0</u>                         |
|   |                            | \$ 676,855 <sup>2</sup>          |

1. See Improvement No. 8 for construction.
2. Excludes Coordination Account. (\$12,873)

**TABLE 35-Q                      AQUATIC ECOSYSTEM RESTORATION  
(SECTION 206, PUBLIC LAW 104-303)  
(See Section 32 of Text)**

| Study  | Stage                      | Fiscal Year<br>Cost<br>(Federal) |
|--|----------------------------|----------------------------------|
| Blackwood Creek, CA  | Reconnaissance/Feasibility | \$ 196,640                       |
| Carson River City, NV  | Reconnaissance             | 5,763                            |
| City Creek Ecosystem, Utah   | Reconnaissance/Feasibility | 132,211                          |
| Clear Lake, CA   | Reconnaissance/Feasibility | 13,567                           |
| Clover Creek,  | Reconnaissance/Feasibility | 1,727                            |
| Gleason Creek, NV  | Reconnaissance             | 4,767                            |
| Hayden Diversion   | Reconnaissance/Feasibility | 82,083                           |
| Incline & 3 <sup>rd</sup> Creeks, NV   | Reconnaissance/Feasibility | 189,721                          |
| Lower Truckee River Paiute   | Reconnaissance/Feasibility | 51,467                           |
| Northfork Gunnison River, CO   | Reconnaissance             | 8,835                            |
| Pacific Flyway, CA   | Reconnaissance/Feasibility | 20,454                           |
| Penn Mine Aquatic Ecosystem Restoration  | Reconnaissance/Feasibility | 54,234                           |
| Soldier Hollow, Utah   | Reconnaissance/Feasibility | 97,936                           |
| Steamboat Creek, Washoe CO, NV   | Reconnaissance             | 7,914                            |
| Turtle Bay, CA   | Reconnaissance/Feasibility | 23,832                           |
| Upper Jordan River Ecosystem Restoration   | Reconnaissance/Feasibility | 164,449                          |
| Upper Truckee River  | Reconnaissance/Feasibility | 89,513                           |
| West Jordan River, Utah  | Reconnaissance/Feasibility | <u>287,536</u>                   |
|  |                            | \$ 1,432,649 <sup>1</sup>        |
| 1. Excludes Coordination Accounts (\$16,619) and Preliminary Restoration Plans (\$9,200) |                            |                                  |

**TABLE 35-R                      SNAGGING AND CLEARING  
UNDER SPECIAL AUTHORIZATION  
PURSUANT TO (SECTION 208, 1954 FLOOD CONTROL ACT PUBLIC LAW 83-780)**

| Study                       | Stage                    | Fiscal Year<br>Cost<br>(Federal) |
|-----------------------------|--------------------------|----------------------------------|
| Blackwood Creek             | Planning Design Analysis | \$ 0                             |
| San Joaquin River Firebaugh | Planning Design Analysis | 5,766                            |
| Walker River, NV            | Planning Design Analysis | 8,843                            |
| Ward Creek                  | Planning Design Analysis | <u>0</u>                         |
|                             |                          | \$ 14,609                        |

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**TABLE 35-S**

**SURVEYS**  
**(See Section 37 of Text)**

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Fiscal year costs were as follows:

|   |           |
|---|-----------|
| Navigation Studies                              | \$ 9,312  |
| Flood Damage Prevention Studies                 | 1,188,985 |
| Required Cost Contributions                     | 4,591,776 |
| Non-Federal Contributions (not required)        | -         |
| Special Studies/Watershed/Ecosystem             | 4,585,563 |
| Review of Authorized Project                    | 74,119    |
| Special Investigations                          | 25,456    |
| Review of FERC Licenses                         | 9,669     |
| Interagency Water Resources Development         | 33,090    |
| National Estuary Program                        | 4,501     |
| American Waterfowl Management Plan              | 2,493     |
| Coordination with Other Water Resource Agencies | 140,364   |
| CAL-FED   | 161,534   |
| Lake Tahoe Partnership                          | 167,142   |
| Planning Assistance to States                   | 135,347   |

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**TABLE 35-T EMERGENCY STREAMBANK & SHORELINE PROTECTION**  
**(SECTION 14, 1946 FLOOD CONTROL ACT)**

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| Study                      | Fiscal Year<br>Cost<br>(Federal) |
|----------------------------|----------------------------------|
| Skyrocket Creek, Ouray, CO | \$ 0                             |

## PROJECTS SPECIFICALLY AUTHORIZED UNDER THE FORMER CALIFORNIA DEBRIS COMMISSION

The California Debris Commission, consisting of three Corps officers appointed by the President with the consent of the Senate, created by act of March 1, 1893 (27 Stat. L., p. 507), was organized in San Francisco, CA, on June 8, 1893, and has jurisdiction and duties extending over drainage area of Sacramento and San Joaquin Rivers, comprising great central valley of California and extending from crest of the Sierra Nevada on the east to that of the Coast Range on the west, and from Mount Shasta and Pit River Basin on the north to Tehachapi Mountains on the south. These rivers empty into head of Suisun Bay ultimately discharging into the Pacific Ocean through connecting bays and straits and the Golden Gate. Duties of the Commission comprise regulation of hydraulic mining in

drainage area of Sacramento and San Joaquin Rivers, CA, so that debris will not be carried into navigable waters or otherwise cause damage; jurisdiction over construction and control of water storage facilities for domestic, irrigation, and power development purposes; and direction of improvements for control of floods on Sacramento River. On November 19, 1986, the Commission was abolished by the Water Resources Development Act of 1986 (PL 99-662) and all authorities, powers, functions, and duties were transferred to the Secretary of the Army. All acquired lands and other interests presently under jurisdiction of the Commission were authorized to be retained and administered under direction of the Secretary.

### IMPROVEMENTS

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| 1. Regulation of Hydraulic Mining and Preparation of Plans . . . . .           | 35-1A | Table 35-AA | Cost and Financial Statement . . . . . 35-7A                      |
| 2. Sacramento River and Tributaries, CA (debris control) . . . . .             | 35-2A | Table 35-BB | Authorizing Legislation . . . . . 35-10A                          |
| 3. Treatment of Yuba River Debris Situation-Restraining Barriers, CA . . . . . | 35-3A | Table 35-CC | Sacramento River, CA: Total Cost of Existing Project . . . 35-12A |
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| 4. Sacramento River, CA . . . . .  | 35-4A |             |   |

#### Navigation

#### 1. REGULATION OF HYDRAULIC MINING AND PREPARATION OF PLANS

**Location.** Operations largely limited to territory between Mount Lassen on the north and Yosemite Valley on the south, on western watershed of Sierra Nevada. (See Geological Survey sheets for the area, 25 in number.)

**Existing project.** Provided for regulating hydraulic mining operations, planning improvement of conditions upon Sacramento and San Joaquin Rivers

and their tributaries affected by such operations, and preparation of plans to enable hydraulic mining to be resumed in their drainage areas. In addition, the Secretary of the Army is authorized to enter into contracts to supply storage for water and use of outlet facilities from debris-storage reservoirs for domestic and irrigation purposes and power development upon such conditions of delivery, use, and payment as he may approve. Applications of prospective miners were fully investigated by the former California Debris Commission and permits to operate were issued to those who provide satisfactory debris-restraining basins by construction of suitable dams where necessary or agree to make payment for storage in Government-constructed debris-restraining reservoirs constructed under act of June 19, 1934, as set forth

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## REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 2001

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below. For location and description of Government-constructed, debris-restraining reservoirs for general hydraulic mining, see Improvement 2.

**Local cooperation.** Mineowners bore all expenses incurred in complying with orders of the former Commission for regulation of mining and restraint of debris.

**Operations and results during fiscal year.** Minor administrative duties were accomplished. Administrative work overlaps that of improvements 2, 3, and 4, hereunder, and that of Sacramento District.

**Historical summary.** The former Commission received 1,292 applications for hydraulic mining licenses; 1 mine is licensed, but does not use storage behind Government debris dams. Work remaining is, in general, continuation of above or similar operations.

### 2. SACRAMENTO RIVER AND TRIBUTARIES, CA (DEBRIS CONTROL)

**Location.** Project reservoirs are to be constructed in watersheds of Yuba, Bear, and American Rivers, CA (See Geological Survey sheets for basin areas, seven in number.)

**Existing project.** For description of completed North Fork and Harry L. Englebright projects and authorizing act, see Annual Report for 1975. Initial recreation facilities were provided in FY 1959. Recreation areas at Harry L. Englebright Dam are maintained by the Corps. Recreation areas at North Fork Dam are no longer maintained and operated by Auburn Recreation Park and Parkway District, but have been turned over to the Bureau of Reclamation (known as the Water and Power Resources Service between November 6, 1979, and May 18, 1981) on a permit basis. Total Federal cost of new work for construction of these reservoirs was \$4,646,872, including \$40,000 and \$25,000, respectively, for basic recreation facilities at Englebright Dam and North Fork Dam. Reservoir project sites on Middle Fork of American River and on Bear River have been deauthorized and excluded from foregoing cost. The 90-day Congressional project review period, required by Sec. 12, Public Law 93-251, as amended, ended August 5, 1977, and resulted in deauthorization of that portion of the project. Estimated cost of that portion is \$1,820,000 (1935).

**Local cooperation.** Fully complied with. Improvements made to facilities at North Fork Dam by Auburn Recreation Park and Parkway District under a lease agreement with the Secretary of the Army and Auburn Boat Clubs (concessionaire) at an estimated cost of \$46,000 since September 1953. On March 1, 1979, lands and waters at North Fork Dam were turned over to the Bureau of Reclamation on a 5-year renewable basis. Permit No. DACW05-4-79-527 was renewed for 5 years on March 1, 1984, March 1, 1989, and on March 1, 1994. Bureau will operate and maintain such use until Auburn project is completed, then a fee transfer will be made. Actual operation and maintenance of the recreation resource is being done by State of California by contract with the Bureau.

**Licenses.** Under provisions of Contract No. W-1105-eng-2998 with Pacific Gas and Electric Co., (PG&E) (a 1941 contract which expired July 31, 1991) payment was made to Federal Government of \$18,000 per year for first 30 years and \$48,000 per year for the next 20 years in return for use of head at Englebright Dam and generation of hydroelectric power. Total payment through September 30, 1999, amounts to \$1,767,109; these funds are now paid to the Secretary of the Army and deposited for return to the Treasury. PG&E has obtained a new license, Federal Energy Regulatory Commission License No. 1403-004, issued February 11, 1993, for continued operation of Narrows No. 1 Hydroelectric Project and has entered into a new storage agreement and an operation agreement with the Federal Government (Corps). Total payment of \$66,070 was received in FY 1994, but only \$48,000 was reallocated to the District. In FY 1995, \$18,070 was reallocated to the District. Payments under new agreement are effective as of Fiscal Year 1993 and will be 8.2 percent of previous fiscal year's total costs for operation and maintenance. License No. 2246, effective April 9, 1970 (date New Narrows powerplant was put in operation) was issued by Federal Power Commission (known as the Federal Energy Regulatory Commission since January 9, 1978) to Yuba County Water Agency for hydroelectric power development of Yuba River by the company upstream from Englebright Dam. Under provisions of Contract No. DA-04-167-CIV-ENG-66-95 with Yuba County Water Agency, payment is to be made to the Federal Government of \$100,000 per year for no more than 50 years. First payment (partial) of \$73,151 was made April 1, 1971; total payment through September 30, 1997, amounts to \$2,509,066. These funds are paid to Sacramento District and deposited for return to the

## SACRAMENTO, CA DISTRICT

Treasury.

**Operations and results during fiscal year.** New work: Maintenance: Maintenance and operation activities continued at Harry L. Englebright Dam at a cost of \$3,538,005, including recreation facilities. Dam safety assurance studies at Englebright Dam have been completed.

**Historical summary.** Construction of dams was initiated in 1937; North Fork project was completed and in use at end of FY 1939, and Harry L. Englebright project was completed in January 1941. The two debris-control structures are in good condition. Public use of these reservoir recreation areas greatly overtakes present capacities. Dam safety assurance studies were initiated at Englebright Dam in FY 1981 and were completed in FY 1987.

### 3. TREATMENT OF YUBA RIVER DEBRIS SITUATION-RESTRAINING BARRIERS, CA

**Location.** Works are on Yuba River between Marysville and where the river emerges from the foothills, near Hammonton, some 10 miles easterly from Marysville, or about 9 miles below the Narrows. (See Geological Survey Topographic map of Sacramento Valley, CA)

**Existing project.** For description of completed project and authorizing act, see Annual Report for 1975. Total cost of new work was \$723,259, of which \$361,482 was U.S. funds and \$361,777 required contributed funds by State of California. (For details of project in its original form, see Annual Report, 1917, p. 1810.) In February 1963, center section of dam failed and major rehabilitation of structure was completed in December 1964. Total cost for required rehabilitation was \$1,660,000, of which \$830,000 was Federal cost and \$830,000 required contribution by State of California toward rehabilitation cost. During the December 24, 1964, floodflows on the Yuba River, the rehabilitated Daguerre Point Dam sustained considerable damage. (See 1965 Annual Report, p. 1647 "Operations and results during fiscal year.") The reconstructed portion of the dam completed earlier in December 1964 was undamaged by the flood. Permanent repair of Daguerre Point Dam abutment and fish facilities was completed in October 1965 at a cost of \$447,808 with Federal and required State contributed funds on a matching basis.

**Local cooperation.** Fully complied with for new work and major rehabilitation work. Total first cost to local interests for new work was \$361,777 (required contribution by State of California). In addition, training walls were built on each bank below Daguerre Point for 11,250 feet and just above Daguerre Point, on the south bank, for 11,000 linear feet by two gold-dredging companies in connection with their dredging operations. To build these training walls would have cost the United States \$450,000 (1902 estimate). Flood channels were also built by gold-dredging companies within confines of project works. Cost to the United States of equally effective works to restrain debris movement would have been more than \$776,000 (1926 estimate). Total costs to local interests for initial and permanent major rehabilitation works were \$830,000 and \$223,904, respectively, (required contribution by State of California). State of California must contribute annually an amount equal to the Federal allotment for maintenance.

**Operations and results during fiscal year.** Maintenance: Operations consisted of condition and operation studies by hired labor on Yuba River.

**Historical summary.** Construction of project works was initiated in November 1902. Construction of Daguerre Point Dam was completed in May 1906; diversion of river over dam was completed in 1910; training walls and dikes were completed in 1935. About 149 million cubic yards of debris are held in lower 7 miles of Yuba River between Marysville and downstream end of training walls. About 20 million cubic feet, are confined in river channel by Daguerre Point Dam. Additional millions of yards of loose material are in mine tailing fields adjacent to project training walls in upper 7-mile reach of project. Initial rehabilitation of Daguerre Point Dam begun in July 1963 was completed in December 1964. Contract for permanent rehabilitation of structure was initiated in July and completed in October 1965.

### Flood Control

### 4. SACRAMENTO RIVER, CA

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**Location.** Works covered by this improvement are on Sacramento River and tributaries in north-central California from Collinsville to Ordbend, a distance of 184 miles.

Previous project. For details see page 1815 of Annual Report for 1917, page 1995 of Annual Report for 1938, and page 2262 of Annual Report for 1907.

**Existing project.** Sacramento River flood control project is a comprehensive plan of flood control for Sacramento River and lower reaches of its principal tributaries. Improvement extends along Sacramento River from Ordbend in Glenn County, CA, 184 miles downstream to its mouth at Collinsville at upper end of Suisun Bay, and comprises a system of levees, overflow weirs, drainage pumping plants, and flood bypass channels or floodways designed to carry surplus floodwaters without inundation of valley lands. About 980 miles of levee construction, with an average height of 15 feet and 98 miles of bank protection are involved in project. For further details, see Annual Report for 1962, page 2115. (See table 35-BB for authorizing legislation.)

Estimated (October 1987) cost for original project (exclusive of supplemental levee improvements), including new work and maintenance, is \$163,925,000 of which \$68,925,000 is Federal cost and \$95 million non-Federal (\$90,050,562 for lands and damages and relocations and \$4,949,438 required contributed funds for levee construction, bank protection works, and levee setbacks). Of this amount, \$4,939,752 was for new work and \$9,686 for maintenance. Estimated October 1996 total project cost is \$171,950,000, of which \$76,322,000 is Federal and \$95,628,000 is non-Federal.

Total estimate now includes remedial levee work for Yolo Bypass and Cache Slough (Unit 109) and land acquisition for Little Holland Tract as hydraulic and environmental mitigation in potential projects impacting stages of the Sacramento River, but excludes Sacramento Urban Area; Marysville/Yuba City Area; Mid-Valley Area; Lower Sacramento Area; and Upper Sacramento Area Levee Reconstruction Projects. Colusa Basin Drain and Knights Landing (West Levee) are not incrementally economically feasible, but these sites have been transferred to Upper Sacramento Area. Knights Landing (East Levee) has been included with Mid-Valley Area. In addition to project requirements, local interests constructed several pumping plants for drainage of agricultural and urban land protected by project levees. Some channel clearing work was

accomplished by State of California and other local interests to supplement project levee construction. Dredging below Cache Slough and reconstruction of Cache Creek settling basin weir are considered deferred and excluded from foregoing cost estimate. Estimated cost (July 1962) of these project units is \$2,560,000 and \$520,000, respectively, a total of \$3,080,000 plus U.S. costs, for construction. Operation and maintenance of completed project will be responsibility of local interests; as units of project are completed, they are transferred to agencies of State of California for operation and maintenance. Existing project was adopted by 1917 Flood Control Act (H. Doc 81, 62d Cong., 1st sess., as modified by Rivers and Harbors Committee Doc. 5, 63d Cong., 1st sess.), 1928 Flood Control Act (S. Doc. 23, 69th Cong., 1st sess.), River and Harbor Act of 1937 (S. Committee print 75th Cong., 1st sess.), and 1941 Flood Control Act (H. Doc. 205, 77th Cong., 1st sess.).

Phase I - Sacramento River Flood Control System Evaluation recommended reconstruction of 32 miles of Sacramento area levees. Report was approved and in March 1989, Sacramento Urban Area Levee Reconstruction project was established under authority of Sacramento River Flood Control Project. New project is located within boundaries of Sacramento River Flood Control System in highly urbanized area around city of Sacramento, near confluence of Sacramento and American Rivers. It includes Natomas area levees from Natomas Cross Canal Bypass through Reclamation District 900 and portions of the Yolo Bypass east levee in West Sacramento; and, in South Sacramento, the east bank of Sacramento River from Miller Park to town of Freeport. Estimated (October 2000) cost for Sacramento Urban project is \$42,900,000 of which \$28,215,000 is Federal and \$14,685,000 is non-Federal (including a cash contribution of \$2,135,000).

Sacramento River Flood Control Project (Glenn-Colusa Irrigation District) (G.C.I.D.) is part of the fishery/irrigation enhancement project being developed by G.C.I.D. Project is located between River Mile 202 and 206 on Sacramento River near the Glenn-Tehama county line, about 100 miles north of Sacramento, California. The Corps riffle restoration project includes multiple sheet pile revetments coupled with a stone grade to replicate natural riffle and bank protection to restore river hydraulic gradient to pre-1970 conditions. This will stabilize river hydraulics. Estimated (October 2001) project cost is



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\$26,000,000, of which \$23,000,000 is Federal and \$6,000,000 is non-Federal. Project was established under authority of the 1917 Sacramento River Flood Control Project (see Energy and Water Development Appropriations Act of 1990 and Water Resources Development Act of 1996 and 1999).

Phase II - Marysville/Yuba City Area Levee Reconstruction. Project is located within boundaries of the Sacramento River Flood Control System in Butte, Sutter and Yuba counties in north-central California. Area includes Feather and Yuba Rivers and their tributaries, Sutter Bypass, cities of Marysville and Yuba City and communities of Linda and Olivehurst. An evaluation of about 134 miles of Sacramento River Flood Control Project levees in Marysville/Yuba City area identified about 22 miles of levees as being structurally unstable. Project consists of reconstructing those levees by installing about 9 miles of slurry cut-off wall, 9 miles of toe drain, and 9 miles of levee freeboard restoration to rectify structural stability, and 2 miles of seepage/stability berm; also consists of raising about 10 miles of levees to restore design freeboard and developing about 76 acres for fish and wildlife mitigation. Estimated (October 2000) project cost is \$46,200,000, of which \$32,260,000 is Federal and \$11,500,000 is non-Federal (including a cash contribution of \$5,840,000). Project was established under authority of Sacramento River Flood Control Project.

Phase III - Mid-Valley Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood Control System in Placer, Solano, Sutter, Yolo and Yuba Counties in north-central California. Area includes the Sacramento and Feather Rivers, Knights Landing Ridge Cut, Sutter and Yolo Bypasses and portions of the Bear River including Yankee Slough, Dry, Cache, Putah Creeks and the Natomas Cross Canal. Communities in the area include Knights Landing, Robbins, Davis and Woodland. An evaluation of about 240 miles of the Sacramento River Flood Control Project levees in the Mid-Valley area identified about 18 miles of levees that are structurally deficient. Project consists of reconstructing about 18 miles of levees by installing about 6.9 miles of landside berms with toe drains, relocation of ditches, about 11.2 miles of embankment modifications, about .2 miles of slurry cut-off walls, the restoration of levee height, and developing land for about 17 acres of fish and wildlife mitigation. Estimated (October 2000) project cost is \$19,600,000, of which \$14,700,000 is Federal and \$4,900,000 is

non-Federal (including a cash contribution of \$2,500,000). Project was established under authority of the Sacramento River Flood Control Project.

Phase IV - Lower Sacramento Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood Control System in Sacramento County in north-central California. Area includes the lower Sacramento River and its tributary sloughs and the city of Clarksburg. An evaluation of about 295 miles of the Sacramento River Flood Control Project levees in the Lower Sacramento area identified about 47 miles of levees that are structurally deficient. Project consists of reconstructing about 2.6 miles of levees by installing landside berms with toe drains, backfilling of existing drainage collector systems, slurry cut-off walls, the restoration of levee height, and developing land for about 2 acres of fish and wildlife mitigation. Estimated (October 2000) project cost is \$6,800,000, of which \$5,100,000 is Federal and \$1,700,000 is non-Federal (including a cash contribution of \$1,220,000). Project was established under authority of Sacramento River Flood Control Project.

Phase V - Upper Sacramento Area Levee Reconstruction. Project is located within the boundaries of the Sacramento River Flood System in Colusa County in north-central California. Area includes the upper Sacramento River and its tributaries and the city of Colusa. An evaluation of about 315 miles of the Sacramento River Flood Control Project levees in the Upper Sacramento area identified about 12 miles of levees that are structurally deficient. Project consists of reconstruction of about 3.7 miles of levees by installing landside berms with toe drains, slurry cut-off walls, the restoration of levee height, and developing land for about 1.3 acres of fish and wildlife mitigation. Estimated October 2000 project cost is \$7,730,000, of which \$5,810,000 is Federal and \$1,920,000 is non-Federal (including a cash contribution of \$880,000). Project was established under authority of Sacramento River Flood Control Project.

**Operations and results during fiscal year.** New work: (a) Sacramento Urban Area Levee Reconstruction: Construction is complete, however, final payment and contract close-out activities remain. (b) Sacramento River Flood Control Project (Glenn Colusa Irrigation District (G.C.I.D.)): Construction was completed on riffle restoration on Sacramento River including building of multiple sheet piles coupled with

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stone to replicate natural riffle and bank protection to restore river hydraulic gradient to approximate pre-1970 conditions. Concurrently, GCID, The Bureau of Reclamation and the State of California are designing a project to build new screens near GCID pumping facilities. Subsequent to original authority in FY90 EWDAA, sponsor selected a flat screen design and determined that a larger gradient facility was required for proper operation of the fish screens. As a result, an LRR and ROD for the larger facility was approved in April 1998. Plans and specs were initiated in January 1999. The Project Cooperation Agreement was executed in December 1999. The Gradient Facility construction contract was awarded in February 2000. Construction management and engineering and design effort continue. Fiscal Year costs total \$9,760,805. (c) Marysville/Yuba City Area Levee Reconstruction: Construction is essentially complete Engineering and Design continue for additional work at Site 7 extension. (d) Mid-Valley Area Levee Reconstruction: Completed Contract 1D awarded in December 1999 and continued contract 1B awarded in July 1997. Engineering continued for the second Project Cooperation Agreement for Areas 2, 3 and 4. (e) Lower Sacramento Area Levee Reconstruction: Engineering continued. (f) Upper Sacramento Area Levee Reconstruction: Engineering continued. In accordance with Section 215 agreement signed September 22, 1997, local sponsor constructed 1,000 lineal feet of seepage/stability berm along the Sacramento River (Site E).

**Historical summary.** Construction of existing project began in FY 1918 and is about 99 percent complete. Channel improvement to date has produced a channel with a capacity of 579,000 cubic feet per second in

Sacramento River below Cache Slough. In addition, discharges up to 21,000 cubic feet per second can be diverted from Sacramento River through Georgiana Slough. Completed major project items include about 977 miles of levees; five weirs with a combined discharge capacity of 602,000 cubic feet per second; two cutoff channels; two sets of outfall gates; channel improvement and clearing in Sacramento River, Butte Creek, Putah Creek, and Sutter and Tisdale Bypasses; construction of two main bypasses or floodways and secondary bypasses at Tisdale and Sacramento weirs and at Wadsworth Canal; construction of Knights Landing ridge cut and of Cache Creek settling basin; installation of gaging stations; and enlargement of Sacramento River below Cache Slough. Cutoffs at Collins Eddy and between Wild Irishman and Kinneys Bends were made in 1918 and 1919, respectively. Sacramento weir was completed in 1917, Fremont weir in 1924, Tisdale and Moulton weirs in 1932, and Colusa weir in 1933. Outfall gates at Knights Landing were constructed in 1930 and at mouth of Butte Slough in 1936. Pumping plants on Sutter Bypass were completed in 1944. Work items with reference to clearing, snagging, rectification of channels, and bank protection on Sacramento River and tributaries in Tehama County and from Red Bluff southerly, provided for by 1941 Flood Control Act were accomplished in fiscal years 1947, 1948, 1949, and 1951. Yolo Bypass and Cache Slough (Unit 109) was completed in 1990. Work remaining comprises completion of levee stage construction Mid-Valley Area; Lower Sacramento Area; and Upper Sacramento Area Levees. (See Table 35-CC for total cost of existing project to September 30, 1996.)

**SACRAMENTO, CA DISTRICT**

**TABLE 35-A (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding                      | FY 98                | FY 99                | FY 00                  | FY 01                  | Total Cost to<br>Sept. 30, 2001 |
|---------------------------|---|------------------------------|----------------------|----------------------|------------------------|------------------------|---------------------------------|
| 1.                        | Regulation of<br>Hydraulic Mining<br>and Preparation<br>of Plans  | Maint.<br>Approp.<br>Cost    | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 821,325<br>821,325              |
| 2.                        | Sacramento River<br>and Tributaries.<br>CA (Debris<br>Control)  | New York<br>Approp.<br>Cost  | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 5,093,999 1 2<br>5,093,999 1 2  |
|                           |   | Maint.<br>Approp.<br>Cost    | 1,216,222<br>926,127 | 984,716<br>1,208,560 | 1,129,739<br>1,170,927 | 1,200,800<br>1,111,532 | 20,538,217 3<br>20,409,034 4    |
|                           | (Contributed<br>Funds Other)  | New Work<br>Contrib.<br>Cost | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 323,420 5<br>315,777 6          |
| 3.                        | Treatment of<br>Yuba River<br>Debris Situation<br>Restraining<br>Barriers, CA<br>(Federal Funds)        | New York<br>Approp.<br>Cost  | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 361,482<br>361,482              |
|                           |   | Maint.<br>Approp.<br>Cost    | 530,000<br>322,815   | -141,000<br>193,428  | 93,000<br>89,034       | 15,841<br>15,678       | 2,657,372 7<br>2,652,572 7      |
|                           |   | Rehab.<br>Approp.<br>Cost    | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 1,053,904<br>1,053,904          |
|                           | (Required<br>Contributed<br>Funds)  | New Work<br>Contrib.<br>Cost | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 361,777<br>361,777              |
|                           |   | Maint.<br>Contrib.<br>Cost   | 92,000<br>-          | -<br>-               | -<br>18,047            | 160,000<br>-           | 2,149,338<br>1,883,230          |
|                           |   | Rehab.<br>Approp.<br>Cost    | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 1,053,904<br>1,053,904          |
|                           | (Contributed<br>Funds, Other)   | New York<br>Contrib.<br>Cost | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 36,000 8<br>34,000              |
| 4.                        | Sacramento<br>River, CA<br>including<br>Sacramento River<br>Flood Control<br>Project (Federal<br>Funds) | New York<br>Approp.<br>Cost  | -<br>55,419          | 1,500,000<br>48,158  | -1,500,000<br>-128,138 | -<br>-1,427            | 80,739,471 9<br>80,737,654 9    |
|                           |   | Maint.<br>Approp.<br>Cost    | -<br>-               | -<br>-               | -<br>-                 | -<br>-                 | 1,979,104<br>1,979,104          |

**REPORT OF THE SECRETARY OF THE ARMY ON CIVIL WORKS ACTIVITIES FOR FY 1999**

**TABLE 35-AA (Cont=d) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text   | Project  | Funding  | FY 95      | FY 96      | FY 97     | FY 98     | FY 99 | Total Cost to<br>Sep. 30, 1999 |
|---|----------|----------|------------|------------|-----------|-----------|-------|--------------------------------|
| (Contributed<br>Funds)  | New Work | Contrib. | -          | -          | -         | -         |       | 10,724,085 10                  |
|   |          | Cost     | -          | -          | -         | -         |       | 10,724,085 10                  |
|   | Maint.   | Contrib. | -          | -          | -         | -         |       | 9,686 11                       |
|   |          | Cost     | -          | -          | -         | -         |       | 9,686 11                       |
| Sacramento<br>Urban Area Levee<br>Reconstruction<br>(Federal Funds)   | New Work | Approp.  | -          | -          | -         | -         |       | 28,075,000                     |
| (Required<br>Contributed<br>Funds)  |          | Cost     | 11,352     | -          | -         | -         |       | 28,071,933                     |
| (Contributed<br>Funds, Other)   | New Work | Contrib. | -          | -          | -         | -         |       | 2,157,613                      |
|   |          | Cost     | 16,725     | 4,516      | 3,852     | -         |       | 2,070,517                      |
|   |          | Contrib. | -          | -          | -         | -         |       | 5,867,175 12 13                |
|   |          | Cost     | 437,408    | -          | -         | -         |       | 5,867,175 12                   |
| Sacramento<br>River Flood<br>Control<br>(G.C.I.D),<br>CA (Federal<br>Funds)   | New Work | Approp.  | 763,000    | 750,000    | 8,046,000 | 3,361,000 |       | 16,633,000 14                  |
|   |          | Cost     | 817,877    | 792,332    | 7,905,734 | 3,407,964 |       | 16,405,244 14                  |
|   |          |          |            |            | 3,900,100 | -         |       | 3,900,100 15                   |
|   |          |          |            |            | 1,855,071 | 1,157,741 |       | 3,012,812 15                   |
| Sacramento<br>River Flood<br>Control<br>(Marysville/Yuba<br>City Area levees).<br>CA (Federal Funds)<br>(Required Contributed<br>Funds) | New Work | Approp.  | 18,994,794 | -2,537,000 | -5,000    | 112,000   |       | 28,889,794                     |
|   |          | Cost     | 15,711,402 | 3,421,799  | 87,826    | 56,726    |       | 28,751,998                     |
|   |          | Contrib. | 4,393,215  | -          | -         | -293,742  |       | 8,417,683                      |
|   |          | Cost     | 4,550,494  | 1,856,474  | 133,729   | 233,736   |       | 7,545,555                      |
| Sacramento<br>River Flood<br>Control<br>(Mid-Valley Area<br>Levee Reconstruction)<br>(Federal Funds)                                    | New Work | Approp.  | 2,859,000  | 221,000    | 2,405,000 | 867,000   |       | 9,111,000                      |
|   |          | Cost     | 2,472,155  | 726,907    | 2,136,419 | 1,087,662 |       | 9,110,148                      |
|   |          | Approp.  | 327,500    | 748,000    | 424,000   | 246,500   |       | 2,431,000                      |
|   |          | Cost     | 502,623    | 243,794    | 495,626   | 298,051   |       | 1,898,046                      |
| Sacramento<br>River Flood<br>Control  | New Work | Approp.  | 378,000    | 380,000    | 587,000   | 552,000   |       | 2,774,365                      |
|   |          | Cost     | 389,522    | 370,195    | 414,210   | 294,602   |       | 2,305,907                      |

**SACRAMENTO, CALIFORNIA, DISTRICT**

**TABLE 35-AA (Cont'd) COST AND FINANCIAL STATEMENT**

| See<br>Section<br>in Text | Project   | Funding   | FY 98                        | FY 99                        | FY 00                        | FY 01                 | Total Cost to<br>Sep. 30, 2001        |
|---------------------------|---|---|------------------------------|------------------------------|------------------------------|-----------------------|---------------------------------------|
|                           | (Lower Sacra-<br>mento Area Levee<br>Reconstruction)<br>(Federal Funds)                         | New Work<br>Contrib.<br>Cost                                | -<br>-                       | -<br>-                       | -<br>-                       | 558,615<br>38,974     | 558,615<br>38,974                     |
| Sacramento                | River Flood<br>Control<br>(Upper Sacramento<br>Area Levee<br>Reconstruction)<br>(Federal Funds) | New Work<br>Approp.<br>Cost<br>New Work<br>Contrib.<br>Cost | 572,226<br>490,759<br>-<br>- | 222,000<br>281,808<br>-<br>- | 510,000<br>330,203<br>-<br>- | -<br>-<br>-<br>90,590 | 1,658,206<br>1,422,561<br>0<br>90,590 |

1. Exclusive of \$644,503 appropriation and cost on inactive portion of project.

2. Includes \$477,127 for recreational facilities at North Fork (\$32,473) and Harry L. Englebright (\$414,654), Code 710 appropriations and costs.

3. Includes \$17,348,051 from regular funds and \$1,989,336 from Hydraulic Mining in California funds.

4. Includes \$17,339,858 from regular costs and \$1,957,614 from Hydraulic Mining in California costs.

5. Includes \$12,420 contributed funds, other, from State of California Department of Navigation and Ocean Development for acquisition of a boarding float; and \$311,000 funds from State of California Department of Boating and Waterways for refurbishing restrooms and launching facilities at Englebright Dam.

6. Includes \$12,420 costs for acquisition of boarding float and \$280,317 costs for refurbishing restrooms and launching facilities at Englebright Dam.

7. Includes deferred maintenance funds in amount of \$207,500.

8. Miscellaneous engineering and construction accomplished at expense of local interests in connection with rehabilitation of Daguerre Point Dam necessitated by December 1964 floodflows. Includes \$2,000 from Yuba County Water Agency in May 1994.

9. Includes appropriation and cost of \$680,000 for new work for previous project and \$1,486,469 public

works funds for new work for existing project.

10. Includes \$680,000 required contribution for previous project; \$4,939,752 required contributed funds for existing project; and \$310,801 voluntary contribution for bank protection for existing project.

11. Includes \$9,686 required contributed funds for existing project.

12. Includes contributed funds, other, from the State of California for relocation of utilities, irrigation ditch, access ramps, and miscellaneous small structures in the Natomas, Greenhaven Pocket and West Sacramento areas. (Sacramento Urban Area).

13. Includes \$1,328,842 contributed funds, other cost for relocations of utilities, irrigation ditch, access ramps, and miscellaneous small structures in the Natomas, Greenhaven Pocket, and West Sacramento areas.

14. G.C.I.D. construction funds received in FY 1991, but no costs were incurred. Includes \$493,000 total funds and costs under General Investigations for Preconstruction Engineering and Design.

15. Not reflected in actual annual accounting records for Marysville/Yuba City are \$1,710,000 costs for FY 91 and FY 92 incurred under Sacramento River Flood Control Project for design effort. These costs are considered part of Marysville/Yuba City cost-shared project.

**TABLE 35-BB AUTHORIZATION LEGISLATION**

| See<br>Section<br>in Text | Date of<br>Authorization<br>Act  | Project and Work Authorized  | Documents  |
|---------------------------|--|--|--|
| 1.                        |  | <b>REGULATION OF HYDRAULIC MINING<br/>AND PREPARATION OF PLANS</b> |  |
| Mar. 1, 1893              | Created California Debris Commission and authorized:<br>(a) Hydraulic mining under its regulation in drainage areas of Sacramento and San Joaquin Rivers, if possible without injury to navigability of these river systems or to lands adjacent thereto; and (b) preparation of plans by Commission for improvement of navigability of these river systems, and flood and debris-control therein.   |  | Ex. Doc. 267, 51st Cong., 2d sess., Ex. Doc. 98, 47 <sup>th</sup> Cong., 1 <sup>st</sup> sess. 1 |
| Feb 27, 1907              | Authorized California Debris Commission to permit hydraulic mining without construction of impounding works, provided there is no injury to navigability of above river systems or lands adjacent thereto.   |  | (Amendment of sec. 13, Act of Mar. 1, 1893.) 1   |
| June 19, 1934             | Amended act of Mar. 1, 1893, which provides for construction of debris dams or other restraining works by California Debris Commission and collection of a 3-percent tax on gross proceeds of each mine using such facilities, so as to eliminate this tax and substitute an annual tax per cubic yard mined, obtained by dividing total capital cost of each dam, reservoir, and rights-of-way, by total capacity of reservoir for restraint of debris; and authorized revocation of Commission orders permitting such mining, for failure to pay this annual tax within 30 days after its due date; and also authorized receipt of money advances, from mineowners to aid such construction, to be refunded later from annual payments of yardage taxes on material mined. |  |  |
| June 25, 1938             | Added at end of sec. 23 of above act, a provision that the Secretary of the Army is authorized to enter into contracts to supply storage for water and use of outlet facilities from debris-storage reservoirs for domestic and irrigation purposes and power development, upon such conditions of delivery, use, and payment as he may approve, these payments are to be deposited to credit of such reservoir project, reducing its capital cost to be repaid by tax on mining operations.   |  |  |
| Nov. 17, 1986             | Abolished the California Debris Commission and   |  | Sec. 1001, 1986 WRDA   |

SACRAMENTO, CA DISTRICT

**TABLE 35-BB (Cont'd) AUTHORIZATION LEGISLATION**

| See<br>Section<br>in Text | Date of<br>Authorization<br>Act   | Project and Work Authorized  | Documents  |
|---------------------------|-----------------------------------|--|--|
|                           |                                   | transferred all authorities, powers, functions, and duties to the Secretary of the Army. Authorized all acquired land and other interests presently under jurisdiction of the Commission to be retained and administered under direction of the Secretary. |  |
| 4.                        | Dec. 22, 1944<br>And May 17, 1950 | <b>SACRAMENTO RIVER, CA</b><br>Additional levee construction and reconstruction, Including levee protection of Upper Butte Basin, and multipurpose reservoirs. <sup>2</sup>  | H. Doc. 649, 78 <sup>th</sup><br>Cong., 2d sess., and<br>367, 81 <sup>st</sup> Cong.,<br>1 <sup>st</sup> sess. |
|                           | July 3, 1958                      | Bank protection and incidental channel improvements, Sacramento River from Chico Landing to Red Bluff, and local interests flood plain zoning above Chico Landing. <sup>2</sup>  | H. Doc. 272, 84 <sup>th</sup><br>Cong., 2d sess.   |
|                           | July 14, 1960                     | Bank protection works at critical locations, Sacramento River. <sup>2</sup>  | S. Doc. 103, 86 <sup>th</sup><br>Cong., 2d sess.   |
|                           | May 24, 1994                      | Acquiring and permanently restoring Little Holland Tract to tidal lands with seasonal and emergent marshlands would not only have substantial environmental benefits, but measurable flood control benefits as well.                                       | H. Doc. 533, 108 <sup>th</sup><br>Cong., 2d sess.  |

1. For latest published map, see Annual Report for 1913, p. 3170, and Rivers and Harbors Committee Document 50, 74<sup>th</sup> Cong., 1<sup>st</sup> sess.

2. This supplemental work is reported in detail under Sacramento District, Improvement No. 23.

**TABLE 35- CC                      SACRAMENTO RIVER CA: TOTAL COST  
EXISTING PROJECT TO SEPTEMBER 30, 2001**

| Funds                    | New Work     | Maintenance | Total        |
|--------------------------|--------------|-------------|--------------|
| Regular                  | \$78,571,131 | \$1,979,104 | \$80,550,235 |
| Public Works             | 1,486,469    | -           | 1,486,469    |
| Total U.S.               | 80,057,600   | 1,979,104   | 82,036,704   |
| Contributed Project Work | 4,939,752    | 9,686       | 4,949,438    |
| Contributed, Other       | 5,104,333    | -           | 5,104,333    |
| Total All Funds          | \$90,101,685 | 1,988,790   | \$92,090,475 |

1. Includes \$429,671 representing book value of plan purchased with previous project funds and transferred to existing project without reimbursement.

2. Excludes financial information for Sacramento Urban Area Levee Reconstruction, Glenn-Colusa Irrigation District (G.C.I.D.), Marysville/Yuba city

Area Levee Reconstruction and Mid-Valley Area Levee Reconstruction, Lower Sacramento Area Levee Reconstruction and the Upper Sacramento Area Levee Reconstruction Projects, all authorized under the Sacramento River Flood Control Project (See Table 35-AA).



# ALBUQUERQUE, NM, DISTRICT\*

The district comprises the watershed of the Canadian River and its tributaries in New Mexico; the watershed of Arkansas River and its tributaries in Colorado; the watershed of Rio Grande and its tributaries, including the Pecos River and its tributaries upstream of Amistad Lake; and the San Juan River Basin in New

Mexico; and the watershed of the Gila, San Francisco, and Mimbres Rivers and its tributaries in New Mexico. Note: The district watershed boundaries were revised in June 1986 to include the portion of New Mexico west of the Continental Divide.

## IMPROVEMENTS

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### Flood Control

#### 1. ACEQUIAS IRRIGATION SYSTEM, NM

**Location.** There are about one thousand acequias throughout the state of New Mexico, most of which are located in north-central New Mexico.

**Proposed project.** Authorized by the Water Resources Development Act of 1986, Section 1113, the project consists of about one thousand acequias throughout the state of New Mexico. These community ditch systems provide irrigation water to about 160,000 acres on an estimated 12,000 farms.

Acequias have been in existence since the early Spanish Colonization period of the 17<sup>th</sup> and 18<sup>th</sup> Centuries, and represent one of the oldest forms of cooperative institutions in the United States. They are

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an integral part of the culture and heritage of New Mexico. Diversion structures, many of which are constructed of available materials such as rock and brush, are frequently destroyed by flows greater than normal resulting from spring runoff or summer thunderstorms. Disruption of the ditches usually occurs during peak irrigation season and severely impacts crop production. The Water Resources Development Act of 1986 directs the U.S. Army Corps of Engineers to undertake measures, without regard to economic analysis, as are necessary to protect and restore the river diversion structures and associated canals.

**Local Cooperation.** The local sponsor, the State of New Mexico, has a law whereby the State of New Mexico provides 17.5% of the project costs, and low interest loans to the local Acequias for the remaining 7.5%. The State of New Mexico has appropriated, and will appropriate, on an annual basis, the funds

necessary to meet the requirements of local sponsorship.

**Operations and results during fiscal year.** Funds to initiate construction were received in Fiscal Year 1988. Construction contracts have been awarded every year since FY 1988.

**Condition at end of fiscal year.** There are several projects in various stages of design and construction. In the traditional Acequia program, La Joya Phase III and JP Gonzales were designed in 2001. Manuelitas, Mulcock-Foley & Powell, East Puerto de Luna and La Joya Phase II were completed in FY 2001 under the Section 215 program. La Puebla, El Cano, Arriba del Valle Barranco, Abajo, Ojo Sarco, and Placita Arriba are scheduled for construction.

## 2. ALAMOGORDO, NM

**Location.** The project is located in south central New Mexico in Otero County, in and near Alamogordo, NM. The city is situated at the foot of the Sacramento Mountains near the eastern edge of the Tularosa Basin.

**Proposed Project.** The authorized project consists of a concrete and riprap lined diversion channel with 100-year flow capacity, which will intercept flows from the Sacramento Mountains east of the City. For a description of the complete improvement and authorizing legislation, see page 694 of Annual Report for 1966.

**Local Cooperation.** The Water Resources Development Act of 1986 applies.

**Condition at the end of the fiscal year.** The construction contract for Phase I of the South Diversion Channel and the McKinley Division Channel, were awarded in December 2000, and work began in February 2001. Plans and specifications for Phase II of the South Diversion and McKinley Diversion are underway. A re-evaluation of the North Diversion Channel was initiated in December 2000 at the request of local interests concerned with potential induced flooding along Red Arroyo. This study will evaluate the potential of replacing the North Diversion with a detention structure.

## 3. ALAMOSA, CO

**Location.** The project lies in south central Colorado along the Rio Grande, in the community of Alamosa, CO.

**Project.** The project consists of a levee system, which will replace and augment the existing spoil bank levees. (See Table 32-B for authorizing legislation).

**Local Cooperation.** The Water Resources Development Act of 1992 applies.

**Operation and results during fiscal year.** Levee construction activities were completed September 1998. Environmental mitigation was completed March 2001.

**Condition at the end of the fiscal year.** Construction completed. Environmental mitigation is completed.

## 4. CONCHAS LAKE, NM

**Location.** The dam is located in San Miguel County, NM, on the Canadian River, just below the confluence of the Canadian and Conchas Rivers. (See Geological Survey State map of New Mexico, scale 1:500,000, and Geological Survey topographic map, Tucumcari quadrangle, scale 1:250,000.)

**Existing project.** This dam consists of a concrete gravity main section 1,250 feet long with a maximum height of 200 feet above streambed, located in the Canadian River Canyon together with earth dikes on each side, having an overall length of about 3.7 miles. The main section contains conduits in its base for the release of water from the reservoir, and an overflow ungated spillway 300 feet long. The earth dikes vary in height up to 100 feet and the north dike contains a concrete ogee-type emergency spillway 3,000 feet long. The reservoir has a gross storage capacity of 513,900 acre-feet (198,170 for flood control; 254,200 for water conservation and irrigation; and 61,530 dead storage). The dam controls 7,409 square miles of drainage area. (See page 17-16 of Annual Report of 1973 for authorizing legislation.)

**Local cooperation.** None required.

**Operations and results during fiscal year.** The reservoir was operated for storage of floodwater and releases for irrigation purposes. Sediment damages of \$68,300 were prevented during FY 2001. There were no flood damages prevented in FY 2001. Estimated total accumulated flood and sediment damages prevented by the project through FY 2001 were \$4,817,100. Estimated irrigation benefits for FY 2001 were \$280,600. Estimated total accumulated irrigation benefits through FY 2001 were \$11,811,900. The pool elevation at the start of FY 2001 was 4,184.91 feet with corresponding storage of 189,376 acre-feet. Total releases for this reporting period were 95,042 acre-feet. Releases of 93,822 acre-feet were made to Arch Hurley Conservancy District, 1,220 acre-feet to Bell Ranch, and 0 acre-feet to the Canadian River channel. The pool elevation on September 30, 2001 was 4,170.61 acre-feet with corresponding storage of 115,548 acre-feet. Sediment deposition during the fiscal year was 610 acre-feet.

## 5. EL PASO, TX

**Location.** The project is located at El Paso, El Paso County, TX, which is on the left bank of the Rio Grande in the reach that forms part of the international boundary between the United States and the Republic of Mexico. (Geological Survey Map for El Paso, TX; New Mexico quadrangle, scale 1:250,000.)

**Existing project.** This project consists of a single-purpose flood control system of detention dams, diversion dikes, conduits, and channels to collect, regulate and discharge arroyo runoff into the Rio Grande. Runoff from the tributary arroyos on the eastern, southern, and western slopes of the adjacent Franklin Mountains often inundates sections of the city and its outlying suburban developments. The project is divided into three independent elements: Northwest area, Central area, and Southeast area. The project plan satisfies the 1933 U.S. and Mexico agreement on limited tributary discharge into the Rio Grande in El Paso, Texas. (See Table 32-B for authorizing legislation.)

**Local cooperation.** Section 2 of the Flood Control Act of June 28, 1938 applied for the Northwest and Central areas. The Local Cooperation Agreement for the Southeast area reflects the cost sharing requirements contained in the Water Resources Development Act of 1986.

**Operations and results during fiscal year.** Flood control dams in operation during FY 1998 and dates of completion of construction are as follows: Northgate and Range Dams (February 1973); Sunrise and Mountain Park Dams (October 1974); and Pershing Dam (March 1977); Fort Bliss Diversion Channel (November 1978); Oxidation Pond Outlet Conduit (November 1980); Mulberry and Thorn Drive Dams (June 1982); Mesa Dam (September 1982); McKelligon Canyon Dam (October 1982); Keystone Dam (September 1983); Keystone Outlet Conduit (March 1984); Highway Diversion Channel (May 1985); Dam Safety Assurance Program to the existing Range and Northgate Dams (September 1986); Borderland Diversion Channel (September 1986); and Phelps Dodge Basin (January 1990); and Americas Basin (March 1993).

**Condition at end of fiscal year.** At the end of 2001, all construction work in Central and Northwest areas were complete.

Construction was completed on the Phelps Dodge Basin in January 1990; Phelps Dodge Channel, June 1992; Americas Basin, March 1993; and Bluff Channel in October 1998. Construction is ongoing for the Lomaland system.

## 6. JOHN MARTIN RESERVOIR, CO

**Location.** The project is located on the Arkansas River in Bent County, 1,159 miles upstream from its mouth; 300 miles downstream from its source, about 18 miles upstream from the city of Lamar, CO. (See Geological Survey maps for Lamar and Las Animas, CO quadrangles, scale 1:125,000.)

**Existing project.** The project consists of a concrete and earth fill structure about 2.6 miles long with a maximum height of 106 feet above streambed, and an overflow, gated spillway 1,174 feet long. Total capacity of the reservoir at the top of flood control is 605,115 acre-feet (259,417 for flood control and 345,698 for conservation and recreation storage). This reservoir controls a contributing drainage area of 18,130 square miles and is operated as a unit of coordinated reservoir system for flood control in the Arkansas River Basin. Public Law 89-298 modified the act of June 22, 1936 (49 Stat. 1570) to authorize 10,000 acre-feet of reservoir flood control storage space for fish and wildlife and recreation purposes. For details of the completed improvement and authorizing legislation, see page 17-16 of Annual Report for FY 1973.

**Local cooperation.** Section 3 of the Flood Control Act of June 22, 1936 applies.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. Regulation of conservation storage continued under rules and regulations of the Arkansas River Compact. Sediment damages of \$146,500 were prevented during FY 2001. Estimated total flood and sediment damages prevented by this project through FY 2001 were \$139,344,300. Estimated irrigation benefits for FY 2001 were \$531,800. Estimated total accumulated irrigation benefits were \$29,524,300. Maximum pool elevation of 3,834.11 feet with corresponding storage of 177,649 acre-feet occurred on April 18, 2001. Total releases for FY 2001 were 232,185 acre-feet. Releases attributed to irrigation benefits amounted to 135,314 acre-feet. Sediment deposition was 1,308 acre-feet in FY 2001.

## 7. LAS CRUCES, NM

**Location.** The project is located in Las Cruces, NM, 40 miles north of El Paso, TX.

**Proposed project.** The project is authorized by the Water Resources Development Act of 1996. The project consists of enlargement and modifications of two existing detention basins and an irrigation ditch in order to provide increased flood protection to the downtown commercial and residential district of Las Cruces. Total project cost is \$12,600,000 (\$9,450,000

Federal and \$3,150,000 non-Federal). Construction of the project was completed in March 2002.

**Local cooperation.** Water Resources Development Act of 1986 applies. The City of Las Cruces is the non-Federal local sponsor.

**Operations and results during the fiscal year.** Operation and Maintenance responsibilities for the project will become the City's responsibility upon completion.

## 8. RIO GRANDE BASIN, NM

**Location.** Improvements are located on the Rio Grande and tributaries in New Mexico. More definitive locations and descriptions of individual projects are in the following paragraphs, and individual reports by projects.

**Existing project.** The Flood Control Act of 1948 authorized the flood control phase of the comprehensive plan of development of water resources of the Rio Grande Basin in New Mexico (H. Doc 243, 81<sup>st</sup> Cong., 1<sup>st</sup> sess.) with the exception of Chiflo Dam and Reservoir and spillway gate structure at Chamita Dam. Although recommended, Chiflo Dam and Reservoir was deleted from the authorized plan. It was excluded without prejudice from future consideration by Congress. It was requested at that time, by the States of Colorado and Texas, that the project be deferred for re-study regarding required storage and methods of operation. By the same Act, Congress also authorized for the construction irrigation phase of the comprehensive plan as recommended by the Bureau of Reclamation (H. Doc. 653, 81<sup>st</sup> Cong., 2<sup>nd</sup> sess.). The Act also stipulated that work should be prosecuted in accordance with a joint agreement approved by the Secretary of the Army and Acting Secretary of the Interior on November 21, 1957. In addition, under that agreement, the Bureau of Reclamation was given responsibility for construction, operation, and maintenance of channel rectification, and drainage rehabilitation and extension phases of the unified plan of improvement. Authority for the Chamita Dam and Reservoir was abrogated when Cochiti Dam and Reservoir was authorized. (See Table 32-B for authorizing legislation and Table 32-C for existing projects.)

All operations and costs for projects contained in the authorized plan are reflected in individual reports on the following pages.

### 8A. ABIQUIU DAM, NM

**Location.** The project is one unit of the flood control plan for the Rio Grande and tributaries, New Mexico. Abiquiu Dam is located on the Rio Chama near the town of Abiquiu, NM, about 32 miles upstream from the confluence of Rio Chama and Rio Grande. (See

Geological Survey map for plan and profile of Rio Chama, NM, from mouth to mile 103, sheet 1, and Army Map Service, Aztec, NM; Colorado NJ 13-1, scale 1:250,000.)

**Existing project.** This project consists of an earth fill dam 1,450 feet long, 325 feet high, with a 12-foot diameter controlled outlet, and an uncontrolled spillway in a natural saddle about one mile north of the left abutment. The reservoir provides 545,784 acre-feet of flood control and sediment storage. Total capacity at the spillway crest is 1,192,801 acre-feet. For a detailed description of the completed improvements and authorizing legislation, see Annual Report of 1973. A major rehabilitation project was completed in September 1980 and the recreation facilities were completed in FY 1981. A non-Federal hydropower plant was completed in 1990 by the County of Los Alamos. The capacity of this plant is 13.2 MW. Drainage adits were completed in 1990 to alleviate seepage problems in the north and south abutments.

**Local cooperation.** None required.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. Storage and flows were regulated in accordance with Section 203, Flood Control Act of 1960. On October 1, 2001, the pool elevation was 6,187.55 feet. The maximum pool (6,212.08 feet) and storage (153,498 acre-feet) occurred on June 17, 2001. On September 30, 2001, the pool elevation was 6,201.05 feet, with a corresponding storage of 115,113 acre-feet. There were 602 acre-feet of sediment deposition during FY 2001. There was \$8,500 in flood damages prevented during FY 2001. Sediment damages prevented were \$67,400. Accumulated flood and sediment damages prevented by the project since completion were \$391,479,200 through FY 2001.

**Condition at end of fiscal year.** The project was placed in operation in February 1963. The project structures are in good condition and operational.

### 8B. COCHITI LAKE, NM

**Location.** The dam is located at river mile 340 on the Rio Grande (river mile 0 being at the intersection of the New Mexico-Texas State Line with international boundary at El Paso, TX), near Pueblo de Cochiti, which is about 50 miles upstream from Albuquerque, NM. (See Geological Survey Map, Cochiti Dam, NM quadrangle and Santo Domingo Pueblo, NM quadrangle, scale 1:24,000.)

**Existing project.** This project consists of an earth fill dam about 5.4 miles long with a maximum height of 251 feet above streambed. The project extends generally in an east-west line across the Rio Grande to a point about 2 miles east of the Rio Grande, and then

southward across the Santa Fe River. An uncontrolled spillway with a 460 foot-long ogee-weir and a 160-foot notch 10.6 feet deep in the center is part of the embankment on the south side of the Santa Fe River. Operational releases for flood control and irrigation are made through a 3-barrel gated conduit in the left abutment on the Rio Grande. The reservoir has a storage capacity of 582,019 acre-feet at the spillway crest, of which 78,640 acre-feet is dedicated for recreation and sediment control. The project controls flood waters from a 11,695 square mile drainage area. For more improvement details, see page 17-7 of Annual Report for 1980. See page 17-14 of fiscal year 1981 Annual Report for authorizing legislation.

**Local cooperation.** None required.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. The project was completed in June 1975. On October 1, 2000, the pool elevation was 5,339.31 feet with a corresponding storage of 48,346 acre-feet. The maximum pool elevation was 5,339.31 feet with a storage of 48,346 acre-feet on December 12, 2000. On September 30, 2001, the pool elevation was 5,339.21 feet with a corresponding storage of 48,232 acre-feet. There were 706 acre-feet of sediment deposition during FY 2001. There were no flood damages prevented during FY 2001. Sediment damages prevented were \$79,100. Accumulated total damages prevented are \$435,342,000.

**Conditions at end of fiscal year.** The dam and appurtenances were placed in operation in 1975. The Cochiti recreation area was completed in 1976, with the Visitors' Center completed in 1977. The Tetilla Peak recreation area was completed in 1981. Project structures are in good condition and in operation.

## 8C. GALISTEO DAM, NM

**Location.** The dam is located at river mile 12 on Galisteo Creek, a tributary of the Rio Grande. The reservoir extends upstream from the dam for about 4 miles, near the village of Waldo, NM (see Geological Survey Map, San Pedro 1, NM, quadrangle, scale 1:24,000.)

**Existing project.** This project consists of an earth fill dam 2,820 feet long with a maximum height of 158 feet above the streambed. The outlet works consist of a 10-foot diameter uncontrolled outlet with maximum discharge capacity of 4,980 cubic-feet-per-second with a pool at the spillway crest elevation. The dam was raised 7 feet and the spillway was widened 575 feet to provide adequate discharge capacity to accommodate the revised probable maximum flood. The dam safety modification contract was awarded in February 1998, and is scheduled to be complete in October 1999. The project has 79,600 acre-feet of sediment space. For more details of completed improvements and

authorizing legislation, see page 17-17 of Annual Report for 1973.

**Local cooperation.** None required.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. Operation of the project began on October 11, 1970. The reservoir was empty of October 1, 2000. No storage occurred during FY 2001. Peak inflow was 1,114 cfs and maximum outflow was 1,114 cfs. There were 21 acre-feet of sediment deposition during the year, and the reservoir was empty on September 30, 2001. Sediment damages prevented during the FY were \$2,400 totaling \$176,300 through FY 2001.

**Condition at the end of fiscal year.** The project was placed in operation in October 1970. The project structures are in good condition and in operation.

## 8D. JEMEZ CANYON DAM, NM

**Location.** The project is located in Sandoval County, NM, on the Jemez River, about 2 miles upstream from the confluence of the Jemez River and the Rio Grande, about 5 miles northwest of Bernalillo, NM. (See Geological Survey Map for Bernalillo quadrangle, scale 1:125,000.)

**Existing project.** This project consists of an earth fill dam 780 feet long with maximum height of 146.6 feet above streambed, and off-channel uncontrolled saddle spillway 400 feet wide, and a 13-foot diameter gated outlet in the left abutment with discharge capacity of 8,340 cubic feet per second with a pool at spillway crest elevation. The dam was raised 14.1 feet and the spillway widened 28 feet in 1986 and 1987 to provide adequate discharge capability to accommodate the revised probable maximum flood. The reservoir has a capacity of 97,425 acre-feet at spillway crest (73,000 acre-feet for flood control and 24,425 acre-feet for sediment control). For more detailed description of completed improvements and authorizing legislation, see page 17-17 of Annual Report for 1973.

**Local cooperation.** None required.

**Operations and results during fiscal year.** On October 1, 2000, the pool elevation was 5,182.53 feet with a corresponding storage of 10,702 acre-feet. The maximum pool elevation was 5,188.77 feet with a storage of 16,184 acre-feet on May 20, 2001. On September 30, 2001, the pool elevation was 5,171.70 feet with a corresponding storage of 3,657 acre-feet. The reservoir was regulated for sediment control during FY 2001. Sediment deposition during FY 2001 was 364 acre-feet. There were no flood damages prevented during FY 2001. Sediment benefits during FY 2001 were \$40,800. Estimated total accumulated flood and sediment damages prevented by the project through FY 2001 were \$25,173,800.

**Condition at end of fiscal year.** The project was placed in operation in October 1953. Project structures are in good condition and all structures are in operation.

## **8E. MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM**

**Location.** The project is composed of 45 square miles of floodplain lying along the Rio Grande from the vicinity of Corrales to Belen, NM.

**Proposed project.** The project is authorized by the Water Resources Development Act of 1986. The project consists of raising and rehabilitating 51.5 miles of levees to provide the 270-year level of protection, and the creation of 75 acres of wetlands from borrow areas within the bosque, and acquisition of 200 acres to satisfy fish and wildlife mitigation requirements. The proposed project will be constructed at an estimated total cost of \$62,400,000 (\$46,800,000 Federal and \$15,600,000 non-Federal) 1 Oct 97 price levels. (See Table 32-B for authorizing legislation.)

**Local cooperation.** Water Resources Development Act of 1986 applies. The Middle Rio Grande Conservancy District is the local sponsor.

**Operations and results during fiscal year.** Construction of the Corrales Unit was completed in July 1997. A General Reevaluation Report study for the remaining units (Mountainview, Isleta, and Belen), is currently underway. The study will update costs, benefits, and environmental impacts of the project that have changed since the project was authorized in 1986. The Reevaluation Report is scheduled to be complete in 2004.

## **8F. RIO GRANDE FLOODWAY, NM**

**Location.** The project is one unit of the flood control phase of the comprehensive plan of improvement for the Rio Grande Basin in New Mexico. It is located on the Rio Grande and covers a section of the river commencing near Truth or Consequences (formerly Hot Springs) at about river mile 123 and extends upstream to EspaZola, NM, about river mile 394. (See Table 32-D on Rio Grande Floodway.)

**Existing project.** This project consists of flood protection and major drainage improvements by channel rectification, levee enlargement and construction, and bank stabilization work where needed to protect the levees. Construction of the project is a joint undertaking by the Bureau of Reclamation and the Corps. Portions to be done by the Corps will consist of levee enlargement,

construction of bank protection work, with channel rectification and drainage rehabilitation work being the responsibility of the Bureau of Reclamation. Levees constructed by local interests exist throughout the reach of the river involved, but are not uniform as to grade, section, or standard of construction, and in many places are threatened by the meandering river. (See Table 32-D on existing project and Table 32-B for authorizing legislation.)

**Local cooperation.** In addition to the usual requirements, local interests are responsible for all highway, bridge, and public utility relocations or replacements required in construction of the project. Local interests will also be required to comply with requirements of Section 221, 1970 Flood Control Act, Section 401, 1986 Water Resources Development Act of 1970, and PL 91-646 Uniform Relocation Assistance Act of 1970. Total costs for all requirements for the completed Albuquerque unit under terms of project authorization were \$75,000. There were no non-Federal costs in connection with the construction of the Cochiti to Rio Puerco unit of floodway. The EspaZola Valley unit is in the deferred category. However, by letter dated 11 November 1998, the City has requested a feasibility study be completed to address river and tributary flooding in EspaZola. Negotiations are underway to identify a non-Federal source of funds to cost-share in the study.

**Operations and results during fiscal year.** There were no flood damages prevented by the completed floodway project during FY 2001. Estimated total accumulated flood damages prevented by the floodway project through FY 2001 amounted to \$48,759,200. The peak flow of the Rio Grande through the middle valley was 5,000 cfs at Albuquerque on May 21, 2001. The peak at San Acacia was 4,500 cfs on May 23, 2001.

**Condition at end of fiscal year.** Construction of the Albuquerque unit of the Rio Grande Floodway project is complete. The General Design Memorandum for the Bernalillo to Belen unit was completed in June 1986. Construction was completed on the Truth or Consequences unit in FY 1991.

## **8G. SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM**

**Location.** The authorized project is located along the Rio Grande, extending from the upper end of the Rio Grande low-flow conveyance channel at the San Acacia diversion works to the head of Elephant Butte Reservoir.

**Proposed project.** The authorized project was authorized by the Flood Control Act of 1948. The project consists of the reconstruction of 42 miles of existing spoil bank levee, which separates the Rio Grande low-flow conveyance channel from the cleared floodway. The proposed project would be constructed

at an estimated total cost of \$65,850,200 (\$57,107,730 Federal and \$8,231,274 non-Federal) 1 Oct 98 price levels. (See Table 32-B for authorizing legislation.)

**Local cooperation.** The Water Resources Development Act of 1986 and the Water Resources Development Act of 1992 apply. The Water Resources Development Act of 1992 modified the local sponsor's required contribution.

**Condition at end of fiscal year.** Construction has been postponed while preparation of a supplemental EIS and Limited Reevaluation Report (LRR) are prepared. The Supplemental EIS was required when two species, found within the project area, were listed as endangered species. It is anticipated that the draft LRR/SEIS will be completed in March 2003. The final report will be completed in February 2004. Construction will follow in October 2004.

## 9. SANTA ROSA DAM AND LAKE, NM

**Location.** The project is located on a lake in Guadalupe County on the Pecos River, at river mile 766.4, approximately 7 miles north of Santa Rosa, NM (see Geological Survey Map, Corazon, NM, sheet, scale 1:125,000.)

**Existing project.** Operation of the project began in November 1979. It consists of an earth and rock fill dam 1,950 feet long and 212 feet maximum height above the streambed. The purposes of this project are flood control, irrigation, and sediment retention. An unlined, open rock cut about 1,000 feet back from the left abutment serves as an uncontrolled spillway. The outlet works, located in the left abutment, consists of a control tower, intake structure with gates, and a 10-foot diameter concrete-lined tunnel with a terminal flip bucket energy dissipater. Storage capacity at the spillway crest is 439,860 acre-feet, which includes 72,860 acre-feet sediment reserve, 200,000 acre-feet irrigation, and 167,000 acre-feet flood control storage. The surface area of the reservoir at the spillway crest is 10,594 acres. The contributing drainage area at the dam site is 2,434 square miles.

For a more detailed report of the authorized project, including the modification to existing Sumner Lake, see page 17-8 of FY 1981 Annual Report. For authorizing legislation, see page 17-14 of FY 1981 Annual Report.

**Local cooperation.** In addition to first costs, operation and maintenance of both reservoir is the responsibility of the Federal Government; however, the Carlsbad Irrigation District is required to contribute to operation and maintenance costs and equal amount to what they now pay toward Sumner Lake. The Carlsbad Irrigation District also agreed to use Sumner Lake for flood control. Because they

realize equivalent benefits from storage capacity in Santa Rosa Lake, they will continue to fulfill their repayment obligation. The New Mexico Division of State Parks manages the recreation facilities. Activities include camping, picnicking, boating, and hiking.

For more requirements and details on final approval in 1974 for transfer of irrigation storage from Sumner Lake to Santa Rosa Dam and Lake (formerly Los Esteros Lake), see page 17-5 of Annual Report for 1980.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. Pool elevation at the start of the fiscal year was 4,687.05 feet with storage of 3,736 acre-feet. Total releases for the fiscal year were 47,171 acre-feet. Pool elevation on September 30, 2001 was 4,705.63 feet with a storage of 13,836 acre-feet. The maximum elevation was 4,723.52 feet with a storage of 37,998 acre-feet on May 11, 2001. There were 327 acre-feet of sediment deposition during the fiscal year. Sediment damages prevented during the fiscal year were \$36,600. Accumulated flood and sediment damages prevented by the project since completion were \$5,468,400 through FY 2001. Releases attributed to irrigation benefits were 39,641 acre-feet. Irrigation benefits for the fiscal year were \$138,700 with an accumulative total of \$3,886,700 through FY 2001.

**Condition at end of fiscal year.** The project was completed in late 1979 and reservoir operation for irrigation was started in March 1980. Construction of the recreation area was completed in October 1980. Design studies for spillway modification were initiated in FY 1979, and construction was completed in FY 1982. The project structures are in good condition and in operation.

## 10. TRINIDAD LAKE, CO

**Location.** This project is located on the Purgatorie River about 161 miles above its junction with the Arkansas River. The project is about 4 miles upstream from the city of Trinidad, CO. (See Geological Survey Map, Trinidad, CO, quadrangle, scale 1:24,000.)

**Existing project.** The project consists of an earth fill dam 6,620 feet long with a maximum height of 200 feet above the streambed, an uncontrolled spillway 1,000 feet wide in the left abutment, and a 10-foot diameter gate-controlled conduit in the right abutment with discharge capability of 5,800 cfs with a water surface at top of the flood control pool. In 1985, a 3-foot high parapet wall on top of the upstream face of the dam and a supplemental 700 foot-wide rock cut emergency spillway located on the right abutment were constructed to provide adequate discharge capability and freeboard allowance to accommodate the revised probable maximum flood. In 1989, the

recreation pool was increased from 4,500 to 15,967 acre-feet, utilizing some originally unallocated space in the project. The reservoir provides for storage of 51,000 acre-feet for flood control, 35,045 acre-feet for sediment, 20,000 acre-feet for irrigation, and 17,179 acre-feet for recreation, a total of 123,224 acre-feet. The reservoir controls a drainage area of 671 square miles and is operated for flood and sediment control, irrigation, and recreation purposes. For authorizing legislation, see page 17-14 of FY 1981 Annual Report.

**Local cooperation.** Assurances of local cooperation received from the City of Trinidad and Purgatorie River Water Conservancy District were formally accepted May 11, 1967, after execution of irrigation repayment contract. For complete details of requirements and costs pertaining to the execution of the irrigation repayment contract and the addition of permanent storage for recreation facilities see page 17-9 of fiscal year 1980 Annual Report.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. On October 1, 2000, the pool elevation was 6,192.42 feet with a corresponding storage of 29,209 acre-feet. The maximum pool elevation was 6,199.59 feet with a corresponding storage of 35,430 acre-feet on May 7, 2001. On September 30, 2001 the pool elevation was 6,170.57 feet with a corresponding storage of 14,207 acre-feet. Sediment deposition during FY 2001 was 95 acre-feet. Sediment damages prevented during FY 2001 was \$35,500. Accrued sediment benefits are \$2,756,900. Irrigation benefits for FY 2001 were \$84,900. Accrued irrigation benefits through FY 2001 were \$2,361,600. Irrigation benefit releases for the year were 21,601 acre-feet.

**Conditions at end of fiscal year.** The project was placed in operation in 1977. The recreation facilities were completed in 1980. The Dam Safety Assurance Contract was completed in May 1983. The project structures are in good condition and in operation.

## 11. TWO RIVERS DAM, NM

**Location.** The project is located about 14 miles southwest of Roswell, NM on the Rio Hondo and the Rocky Arroyo. The Rio Hondo is formed at the confluence of the Rio Ruidoso and the Rio Bonito, near the village of Hondo, NM, in the foothill region east of Sierra Blanca in the southeastern part of Lincoln County, NM, and flows generally easterly to its confluence with the Pecos River near Roswell, NM. (See Geological Survey Map, Hondo Reservoir quadrangle, scale 1:24,000.)

**Existing project.** The Two Rivers project consists of two dams: Diamond "A" and Rocky. The Diamond "A" Dam is an earth fill structure, 4,885 feet long and 98 feet high, with a gated outlet. The Rocky Dam is an earth fill structure 2,940 feet long and 118 feet high

with an uncontrolled outlet. No provision is made for water storage, except for flood control. Flood releases will be controlled so that flows through Roswell will not exceed the Rio Hondo channel capacity, which is about 600 cfs. A Dam Safety Reconnaissance Report approved in June 1996, identified need to increase the size of the spillway on the left abutment of the Rocky Dam by 1,170 feet in order to accommodate the revised Probable Maximum Flood flows for the Dam. The spillway was widened 1,170 feet in 1998 to provide adequate discharge capability to accommodate the revised probable maximum flood. The capacity of the Two Rivers Reservoir at its spillway crest is 163,773 acre-feet of which 13,775 acre-feet are provided for sediment reserve. Together, these dams regulated runoff from 1,027 square miles of drainage area. For details of completed improvement and authorizing legislation, see page 17-18 of Annual Report for 1973.

**Local cooperation.** Section 2 Flood Control Act of 1938 applies and compliance is satisfactory.

**Operations and results during fiscal year.** Operation of the dam and reservoir continued. The reservoir was empty on October 1, 2000. There were no flood damages prevented during FY 2001. There was \$500 in sediment damages prevented during FY 2001. Estimated total accumulated flood and sediment damages prevented through FY 2001 were \$190,605,100. There were 4 acre-feet of sediment deposition during FY 2001. The accrued sediment benefits through FY 2001 were \$1,107,900.

## 12. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS.

Included under this heading is inspection of completed flood control projects transferred to local interests for operation and maintenance. Projects in Texas, Colorado, and New Mexico were inspected. Federal costs for FY 2001 were \$177,755.

## 13. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS.

Pursuant to Section 7, Flood Control Act of 1944, five projects are operated by others for flood control. These projects are Platoro, Pueblo, Sumner, Navajo, and Brantley Dams.

Platoro Dam on the Conejos River above the town of Platoro, Conejos County, CO, controls runoff from 40 square miles of high mountain area. The authorized purposes are irrigation storage and flood control. Platoro is operated by the Conejos Water Conservancy District. Total storage is 59,571 acre-feet with the top 6,000 acre-feet solely for flood control. The 53,571 acre-feet is joint-use storage with flood control on a



forecast basis during spring runoff. Platoro Dam was authorized by the Interior Appropriation Act of 1941. (See H Doc. 693, 76<sup>th</sup> Cong., 3<sup>rd</sup> Sess.) Construction of this project was completed by the Bureau of Reclamation in 1952.

On October 1, 2000, storage in Platoro Reservoir was 17,166 acre-feet at elevation 9,977.92 feet. Maximum storage of 34,003 acre-feet at elevation 10,004.17 acre-feet occurred on June 18, 2001. On September 30, 2001, storage was 18,946 acre-feet at elevation 9,981.08 feet. There were no flood damages prevented by this project during FY 2001. Total flood damages prevented to date are at \$6,094,200.

Pueblo Dam is part of the Fryingpan-Arkansas project that was authorized under Public Law 98-590, 87<sup>th</sup> Congress, HR 2206 on August 16, 1962. The project was completed in August 1975. Pueblo is operated by the Bureau of Reclamation and is located at river mile 1,293.7 on the Arkansas River in Pueblo County, CO. Pueblo Reservoir has a total capacity of 349,940 acre-feet at the top of the flood pool with 27,000 acre-feet exclusive flood space and 66,000 acre-feet joint use space.

Operation of Pueblo Reservoir began on February 10, 1974. Storage on October 1, 2000 was 160,689 acre-feet, elevation 4,856.00 feet. Maximum storage during the year was 225,832 acre-feet at elevation 4,873.38 on March 21, 2001. Storage on September 30, 2001 was 96,641 acre-feet at elevation 4,834.08 feet. There were no flood damages prevented in FY 2001. Total flood damages prevented to date are \$11,316,700.

Sumner Dam is located on the Pecos River at river mile 710.8 in De Baca County, New Mexico. Sumner Dam was authorized as Alamogordo Dam by the Secretary of the Interior under a Finding of Feasibility approved by the President of the United States on November 6, 1935, under the Federal Reclamation laws. The original project was completed in 1937. Modification work of raising the dam 16 feet, adding a spillway and limiting the service spillway floor to 56,000 cfs, was completed in 1957. A twenty-four inch bypass line was installed in 1977 to pass flows less than 100 cfs. Sumner is operated by the Carlsbad Irrigation District. Storage on October 1, 2000 was 6,742 acre-feet at elevation 4,238.78 feet. Maximum storage for FY 2001 was 40,627 acre-feet at elevation 4,238.78 feet on March 19, 2001. Storage on September 30, 2001 was 4,633 acre-feet at elevation 4,235.16 feet.

Navajo Dam and Reservoir is located on the San Juan River at river mile 298.6 in San Juan County, New Mexico. Navajo Dam was authorized as part of a Colorado River Storage Project by an act of the 84<sup>th</sup> Congress, 11 April 1956 (PL 485). The Bureau of Reclamation constructed and is responsible for operation of the project. Construction was initiated in

June 1958 and the project was completed and placed in operation in March 1963. Total capacity at spillway crest is 1,708,600 acre-feet. The project controls a drainage area of 3,230 square miles. Storage on October 1, 2000 was 1,356,600 acre-feet, elevation 6,060.69 feet. Maximum storage for FY 2001 was 1,543,300 acre-feet, elevation 6,074.45 feet on May 22, 2001. Storage on September 30, 2001 was 1,409,200 acre-feet, elevation 6,064.73 feet.

Brantley Dam, on the Pecos River, above the town of Carlsbad in Eddy County, NM, controls runoff from 13,208 square miles of uncontrolled area. The authorized purposes are irrigation, flood control, fish and wildlife, recreation, and for the elimination of the hazards of failure of the McMillan and the Avalon Dams. The total storage is 348,544 acre-feet with 189,700 acre-feet for flood control. The Brantley Dam was authorized for construction on 20 October 1972 by Public Law 92-514 with the cost ceiling raised for the project in October 1980 by Public Law 96-375. On September 6, 1988, the conduits were closed and Brantley Dam started its initial filling. On September 30, 2000, the storage was 27,333 acre-feet at elevation 3,247.97 feet.

## 14. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 32-D.

## 15. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

**Flood control activities pursuant to Section 205, Public Law 858, 80<sup>th</sup> Congress, as amended (pre-authorization).**

Costs during FY 2001 were: Little Puerco River, Gallup, NM \$215,503.59; Section 205 Coordination Account \$8,081.22; Flume at Willow Creek, Creede, CO \$522.47; Unnamed Arroyo, Hernandez, NM \$256.67; Columbus, NM \$23,336.50; Sun Valley, El Paso, TX \$12,417.86; Cheyenne Creek, Colorado Springs, CO \$15,378.72.

**Emergency flood control activities; repair, flood fighting, and rescue work. (Public Law 99, 84<sup>th</sup> Cong., and antecedent legislation.)**

There were no Federal costs in FY 2001 for advance preparation, none for flood emergency operations, and there were no repair and restoration costs.

**Emergency bank protection (Sec. 14, 1946 Flood Control Act, Public Law 526, 79<sup>th</sup> Cong.)**

Section 14 Coordination Account \$4,381.53; Isidro Road, Santa Fe, NM \$398,701.44; Unnamed Arroyo, Highway 371, near Crownpoint, NM \$1,026.70; Cibola County Road 7, Cubero, NM \$-12,776.01; Paseo del Norte, Albuquerque, NM \$9,483.51; Power Blvd., Colorado Springs, CO \$1,476.36.

**Snagging and Clearing for Flood Control (Section 208 of the 1954 Flood Control Act, 83<sup>rd</sup> Cong.)**

There were no costs in FY 2001.

**Environmental Infrastructure**  
**16. CENTAL, NM**

**Location.** Central, NM is defined as Bernalillo, Sandoval and Valencia counties in central New Mexico.

**Proposed project.** Section 593 of the Water Resources Development Act of 1999 authorizes the Corps of Engineers to provide assistance to non-Federal sponsors in the form of design and construction for water-related environmental infrastructure and resource protection and development of publicly-owned projects, including projects for wastewater treatment and related facilities, water supply, conservation and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

**Local cooperation.** Local sponsors of the projects included in Central, New Mexico, are responsible for 25% of the costs associated with the project. The Federal share is 75%.

**Condition at the end of the fiscal year.** Two Project Cooperation Agreements were signed with the City of Belen; one for the Perizitte/West Chavez project and another for the Jude Court project. Both projects included the replacement of water and sewage lines and stormwater remediation. Design of these projects was accomplished in-house and a construction contract was awarded on 27 September 2001.

The Bosque Farms, NM project included design and construction of an anaerobic selector, influent splitter box, aeration basin clarifier and sludge-holding tank; design and construction of new influent piping from the existing stub-out and aeration piping from new tanks to the existing blower building. Project also included effluent piping from the new tanks to the

existing ultraviolet disinfection structure; odor control piping from the new tanks to the odor control facility and other miscellaneous piping and connections as required. Construction of design of the facility will assure the Village of Bosque Farms of the system redundancy required by the Environmental Protection Agency and will assure plant operation when the existing aeration basin clarifier and sludge holding tank is off-line for maintenance. The Project Cooperation Agreement for this project was extended on 18 September 2001.

**General Investigations**  
**17. SURVEYS**

Costs for the fiscal year were \$972,898.80 for flood damage prevention studies, \$71,322.85 for special studies (coordination studies with other agencies).

**18. COLLECTION AND STUDY OF BASIC DATA**

Fiscal year costs were \$364,062.53 for floodplain management and technical services.

Hydrological studies involving collection and study of basic data, such as stream flow data, collection of suspended sediment samples, recording rain gage data, special studies, hydro meteorological studies, sedimentation studies, and environmental data studies continued. Costs during the fiscal year were \$5,156.04.

**19. ENVIRONMENTAL DATA STUDIES**

There were no Environmental Data Studies for FY 2001.

**20. PRECONSTRUCTION ENGINEERING AND DESIGN**

There were no Continuation of Engineering and Design Costs in FY 2001.

**21. OTHER WORK UNDER SPECIAL AUTHORITY**

FY 2001 costs for Section 1135 projects were \$409,479.32 and Section 206 costs were \$367,392.95.

**TABLE 36-A COST AND FINANCIAL STATEMENT**

| See<br>Section<br>In Text | Project                           | Funding  | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost<br>to<br>Sept.30, 2001 |
|---------------------------|-----------------------------------|----------|-----------|-----------|-----------|-----------|-----------------------------------|
| 1.                        | Acequias Irrigation<br>System, NM | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | 94,000    | 465,000   | 550,000   | 1,369,000 | 13,863,000 <sup>1</sup>           |
|                           |                                   | Cost     | 506,128   | 690,372   | 802,924   | 1,115,112 | 13,457,761 <sup>1</sup>           |
|                           | (Contributed Funds)               | Approp.  |           |           |           | 337,500   | 337,500                           |
|                           |                                   | Cost     |           |           |           | 163,928   | 163,928                           |
| 2.                        | Alamogordo, NM                    | New Work | 456,000   | 299,000   | 700,000   | 2,289,000 | 7,964,000                         |
|                           |                                   | Approp.  | 633,840   | 228,541   | 758,867   | 1,953,469 | 7,566,842                         |
|                           |                                   | Cost     |           |           |           |           |                                   |
|                           | (Contributed Funds)               | Approp.  | -         | -         | -         | 1,725,000 | 1,725,000                         |
|                           |                                   | Cost     | -         | -         | -         | 25,801    | 25,801                            |
| 3.                        | Alamosa, CO                       | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | 2,998,000 | (100,000) | 30,000    | -         | 5,630,000 <sup>2</sup>            |
|                           |                                   | Cost     | 2,725,875 | 455,632   | 55,835    | 4,285     | 5,578,432 <sup>2</sup>            |
|                           | (Contributed Funds)               | Approp.  | -         | -         | -         | -         | -                                 |
|                           |                                   | Cost     | -         | -         | 14,743    | -         | 14,743                            |
| 4.                        | Conchas Lake, NM                  | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | -         | -         | -         | -         | 13,821,499 <sup>3</sup>           |
|                           |                                   | Cost     | -         | -         | -         | -         | 13,821,499 <sup>3</sup>           |
|                           |                                   | Maint.   |           |           |           |           |                                   |
|                           |                                   | Approp.  | 1,194,201 | 1,477,636 | 1,372,500 | 1,030,820 | 28,908,676                        |
|                           |                                   | Cost     | 1,317,562 | 1,494,868 | 1,372,305 | 1,037,043 | 28,894,470                        |
| 5.                        | El Paso, TX                       | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | 6,997,000 | 4,849,000 | 2,776,000 | 4,358,000 | 111,907,000 <sup>4</sup>          |
|                           |                                   | Cost     | 5,702,520 | 4,824,405 | 3,987,235 | 4,577,844 | 111,815,197 <sup>4</sup>          |
|                           | (Contributed Funds)               | Approp.  | -         | -         | -         | 1,633,000 | 1,633,000                         |
|                           |                                   | Cost     | -         | -         | -         | 195,619   | 195,619                           |
| 6.                        | John Martin<br>Reservoir          | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | -         | -         | -         | 0         | 15,555,358 <sup>5</sup>           |
|                           |                                   | Cost     | -         | -         | -         | 0         | 15,555,571 <sup>5</sup>           |
|                           |                                   | Maint    |           |           |           |           |                                   |
|                           |                                   | Approp.  | 1,718,135 | 2,811,031 | 2,016,748 | 3,008,370 | 41,783,302                        |
|                           |                                   | Cost     | 1,703,666 | 2,849,179 | 1,949,323 | 3,091,583 | 41,759,236                        |
| 7.                        | Las Cruces, NM                    | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | 450,000   | 651,000   | 2,913,000 | 3,580,000 | 8,194,050 <sup>6</sup>            |
|                           |                                   | Cost     | 420,796   | 537,388   | 1,965,936 | 4,295,249 | 7,734,166 <sup>6</sup>            |
|                           | (Contributed Funds)               | Approp.  | -         | -         | 1,000,000 | 1,094,156 | 2,094,156                         |
|                           |                                   | Cost     | -         | -         | 543,090   | 642,067   | 1,185,157                         |
| 8.                        | Rio Grande Basin, NM              | New Work |           |           |           |           |                                   |
|                           |                                   | Approp.  | -         | -         | -         | 400,000   | 400,000                           |
|                           |                                   | Cost     | -         | -         | -         | 43,533    | 43,533                            |

**TABLE 36A**  
**(Continued)** **COST AND FINANCIAL STATEMENT**

| See<br>Section<br>In Text | Project  | Funding  | FY 98     | FY 99     | FY 00     | FY 01     | Total Cost<br>to<br>Sept.30, 2001 |
|---------------------------|--|----------|-----------|-----------|-----------|-----------|-----------------------------------|
| 8A.                       | Abiquiu Dam, NM  | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | 2,840,000 | 3,319,000 | 100,000   | -         | 34,050,028                        |
|                           |  | Cost     | 2,816,446 | 3,253,305 | 422,849   | -         | 33,823,528                        |
|                           |  | Maint.   |           |           |           |           |                                   |
|                           |  | Approp.  | 1,322,320 | 1,185,843 | 1,470,574 | 1,727,360 | 41,192,301                        |
|                           |  | Cost     | 1,576,201 | 1,210,038 | 1,466,183 | 1,715,049 | 41,116,948                        |
| 8B.                       | Cochiti Lake, NM   | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | -         | -         | -         | -         | 96,956,559                        |
|                           |  | Cost     | -         | -         | -         | -         | 96,956,559                        |
|                           |  | Maint.   |           |           |           |           |                                   |
|                           |  | Approp.  | 1,876,600 | 1,964,795 | 3,151,643 | 2,223,426 | 35,866,031                        |
|                           |  | Cost     | 2,123,835 | 1,985,713 | 3,013,894 | 2,173,010 | 35,668,106                        |
| 8C.                       | Galisteo Dam, NM   | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | 292,000   | 2,975,000 | 476,000   | -         | 18,283,053                        |
|                           |  | Cost     | 309,791   | 2,810,773 | 674,146   | -         | 18,213,168                        |
|                           |  | Maint.   |           |           |           |           |                                   |
|                           |  | Approp.  | 245,335   | 273,994   | 261,564   | 282,564   | 4,590,187                         |
|                           |  | Cost     | 253,895   | 280,130   | 256,764   | 288,060   | 4,589,750                         |
| 8D.                       | Jemez Canyon<br>Dam, NM  | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | -         | -         | -         | -         | 6,293,972                         |
|                           |  | Cost     | -         | -         | -         | -         | 6,293,972                         |
|                           |  | Maint.   |           |           |           |           |                                   |
|                           |  | Approp.  | 477,000   | 326,310   | 586,700   | 3,330,721 | 15,057,463                        |
|                           |  | Cost     | 635,640   | 332,557   | 569,144   | 3,347,130 | 15,055,459                        |
| 8E.                       | Middle Rio Grande<br>Flood Protection,<br>Bernalillo to Belen, NM      | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | 562,000   | 224,000   | 515,000   | 393,000   | 9,284,000 <sup>7</sup>            |
|                           |  | Cost     | 544,144   | 340,297   | 448,369   | 387,135   | 9,679,329 <sup>7</sup>            |
| 8F.                       | Rio Grande Floodway  | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | -         | -         | -         | -         | 4,794,868 <sup>8</sup>            |
|                           |  | Cost     | -         | -         | -         | -         | 4,794,868 <sup>8</sup>            |
| 8G.                       | Rio Grande Floodway,New Work<br>San Acacia to Bosque<br>del Apache, NM | Approp.  | 293,000   | 337,000   | 515,000   | 73,000    | 5,138,000 <sup>9</sup>            |
|                           |  | Cost     | 309,015   | 346,573   | 400,084   | 233,727   | 5,124,816 <sup>9</sup>            |
| 9.                        | Santa Rosa Dam<br>& Lake, NM   | New Work |           |           |           |           |                                   |
|                           |  | Approp.  | -         | -         | -         | -         | 41,039,741                        |
|                           |  | Cost     | -         | -         | -         | -         | 41,039,056                        |
|                           |  | Maint.   |           |           |           |           |                                   |
|                           |  | Approp.  | 728,388   | 823,829   | 852,295   | 855,514   | 14,696,662                        |
|                           |  | Cost     | 875,497   | 860,651   | 850,637   | 860,392   | 14,695,836                        |

**TABLE 36-A**  
**(Continued)** **COST AND FINANCIAL STATEMENT**

| See<br>Section<br>In Text | Project   | Funding  | FY 98     | FY 99    | FY 00   | FY 01     | Total Cost<br>to<br>Sept. 30, 2001 |
|---------------------------|---|----------|-----------|----------|---------|-----------|------------------------------------|
| 10.                       | Trinidad Lake, CO                               | New Work |           |          |         |           |                                    |
|                           |   | Approp.  | -         | -        | -       | -         | 55,774,758                         |
|                           |   | Cost     | -         | -        | -       | -         | 55,774,758                         |
|                           |   | Maint.   |           |          |         |           |                                    |
|                           |   | Approp.  | 493,800   | 544,645  | 599,977 | 577,924   | 11,348,575                         |
|                           |   | Cost     | 584,626   | 548,131  | 601,525 | 580,793   | 11,348,007                         |
| 11.                       | Two Rivers Dam,<br>NM                           | New Work |           |          |         |           |                                    |
|                           |   | Approp.  | 1,475,000 | (20,000) | -       |           | 6,759,244                          |
|                           |   | Cost     | 1,483,615 | 54,973   | -       |           | 6,757,619                          |
|                           |   | Maint.   |           |          |         |           |                                    |
|                           |   | Approp.  | 304,000   | 346,517  | 253,459 | 317,553   | 6,074,562                          |
|                           |   | Cost     | 317,039   | 356,314  | 251,444 | 319,857   | 6,074,538                          |
| 16.                       | Environmental<br>Infrastructure-<br>Central, NM | New Work |           |          |         |           |                                    |
|                           |   | Approp.  | -         | -        | -       | 2,514,000 | 2,514,000                          |
|                           |   | Cost     | -         | -        | -       | 263,349   | 263,349                            |
|                           | (Contributed Funds)                             | Approp.  | -         | -        | -       | -         | 347,500                            |
|                           |   | Cost     | -         | -        | -       | -         | -                                  |

<sup>1</sup> Reflects PED funding appropriations beginning in FY 1986.  
Include non-Federal contributions of \$2,412,000.

<sup>2</sup> PED activities were initiated in FY 1991.

<sup>3</sup> Includes \$3,492,696 maintenance and improvement costs and \$869,978 for emergency relief, excludes \$2,279,326 cost of initiating project under the authority of Emergency Relief Appropriation Act of 1935 and \$222,669, the cost for work performed with funds transferred to the Corps under Public Works Acceleration Act of 1962.

<sup>4</sup> Does not include non-Federal contributions of \$2,657,653.

<sup>5</sup> Excludes \$59,977 emergency relief funds for new work. Includes \$30,000 for Code 710.

<sup>6</sup> Includes \$514,741 PED funds.

<sup>7</sup> Includes \$1,177,000 PED funds.

<sup>8</sup> Includes funds for preconstruction planning of EspaZola Valley unit. Excludes \$1,000,011 appropriated funds transferred to Bureau of Reclamation under memorandum of agreement between that agency and the Corps.

<sup>9</sup> Includes \$1,658,000 PED funds

**TABLE 36-B AUTHORIZING LEGISLATION**

| See<br>Section<br>In Text | Date<br>Authorizing<br>Act | Project and Work Authorized  | Documents   |
|---------------------------|----------------------------|--|---|
| 1.                        | Nov. 17, 1986              | <b>ACEQUIAS IRRIGATION SYSTEM</b><br>An Irrigation System dating back to the eighteenth century with significant engineering work in the settlement and development of the western portion of the United States. Restoration and preservation of this system has cultural and historical values to the region. Measures are necessary to restore and protect the river division structures and associated canals.  | Public Law 662,<br>99 <sup>th</sup> Cong., 2 <sup>nd</sup><br>sess. (Sec. 1113) |
|                           | Oct. 12, 1996              | Except that the Federal share of reconnaissance studies carried out by the Secretary under this section shall be 100 percent.  | Public Law 104-30<br>104 <sup>th</sup> Cong.,<br>(Sec. 334)                     |
| 3.                        | Oct. 31, 1992              | <b>ALAMOSA, COLORADO</b><br>Authorized a flood control project for Alamosa, Colorado.  | Public Law 102-580<br>102d Congress<br>(Sec. 101)                               |
| 6.                        | Oct. 27, 1965              | <b>EL PASO, TX</b><br>A single-purpose flood control system of detention dams, diversion dikes and channels to collect, regulate and discharge arroyo runoff in the Rio Grande. Consists of four independent units (NW Area, Central Area, and two units, Copper system and Bluff Channel of the SE Area).   | H. Doc. 207, 89 <sup>th</sup><br>Cong., 1 <sup>st</sup> sess. <sup>1</sup>      |
| 8.                        | Oct. 12, 1996              | <b>LAS CRUCES, NM</b><br>The project for flood control, Las Cruces, NM; Report of the Chief of Engineers, dated June 24, 1996, at total of \$8,278,000, with an estimated Federal cost of \$5,494,000 and an estimated non-Federal cost of \$2,784,000.  | Public Law 104-303<br>104 <sup>th</sup> Cong., (Sec.)                           |
| 9.                        | Jun. 30, 1948              | <b>RIO GRANDE BASIN, NM</b><br>Authorized to be appropriated \$3,500,000 to be expended by the Dept. of the Army for partial accomplishment of approved general comprehensive plan for the Rio Grande Basin in NM and Colorado.  | H. Doc. 243, 81 <sup>st</sup> Cong.,<br>1 <sup>st</sup> sess.                   |
|                           | May 17, 1950               | Authorized to be appropriated an additional \$39,000,000 for Department of The Army for prosecution of comprehensive plan for the Rio Grande Basin.  | Public Law 516, 81st<br>Cong., 2 <sup>nd</sup> Sess.                            |
|                           | Jul 14, 1960               | Authorized Cochiti Dam on Rio Grande and Galisteo Dam on Galisteo Creek as additions to authorized comprehensive plan for Rio Grande Basin (Cochiti Dam was authorized in lieu of Low Chamita Dma of Chamita Dam Reservoir Project on Rio Chama under "substitute plan"). Also Authorized to be appropriated an additional \$58,300,000 for Dept. of the Army for this addition to comprehensive plan for the Rio Grande Basin.  | S. Doc. 94, 86 <sup>th</sup> Cong.  |
|                           | Nov. 17, 1986              | Authorized installation of the Abiquiu Dam Emergency Gates by the Water Resources Development Act of 1986 (PL 99-662).   | Public Law 662, 99 <sup>th</sup><br>Cong. 2 <sup>nd</sup> Sess.                 |
|                           | Sep. 30, 1997              | The emergency gate construction project for Abiquiu Dam, NM, authorized By section 1112 of the Water Resources Development Act of 1986 (PL 99-662, 100 Stat 4232) is modified to authorize the Secretary of the Army, acting through the Chief of Engineers, to construct the project at an estimated cost of \$7,000,000. The non-Federal share of the project shall be 25 percent of those costs of the project attributable to an increase in flood protection as a result of the installation of such gates. | Public Law 104-206<br>(Sec. 1112)   |

**TABLE 36-B**  
**(Continued)**

**AUTHORIZING LEGISLATION**

| See<br>Section<br>In Text | Date<br>Authorizing<br>Act           | Project and Work Authorized  | Documents   |
|---------------------------|--------------------------------------|--|---|
| 10E.                      | Nov. 17, 1986                        | <b>MIDDLE RIO GRANDE FLOOD PROTECTION, BERNALILLO TO BELEN, NM</b><br>Authorized project for flood control, Middle Rio Grande Flood Protection, Bernalillo to Belen, NM. Authorized increase of flood protection through the dredging of the bed of the Rio Grande in the vicinity of Albuquerque, NM, to an elevation lower than existed on the date of enactment of this Act. The project shall include the establishment of 75 acres of wetlands for fish and wildlife habitat and the acquisition of 200 acres of land for mitigation of fish and wildlife losses.   | Public Law 662, 99 <sup>th</sup><br>Cong., 2 <sup>nd</sup> Sess.  |
| 10F.                      | Jun. 30, 1948<br>and<br>May 17, 1950 | <b>RIO GRANDE FLOODWAY, NM</b><br>Channel rectification, levee enlargement and construction, and bank stabilization on Rio Grande between river mile 123 and 394 (San Acacia To Bosque del Apache Unit).   | Cong., 1 <sup>st</sup> Sess. <sup>1</sup> and<br>Public Law 516, 81 <sup>st</sup><br>Cong., 2 <sup>nd</sup> Sess. |
| 10G.                      | Oct. 31, 1992                        | <b>RIO GRANDE FLOODWAY, SAN ACACIA TO BOSQUE DEL APACHE UNIT, NM</b><br>Modified the cost sharing to more equitably reflect the non-Federal Contribution for the project by that percentage of benefits which is Attributable to the Federal properties; except that, for purposes of this subsection, Federal property benefits may not exceed 50 percent of the total project benefits.  | Public Law 102-580,<br>102d Cong., (Sec.<br>102(e))   |
| 16.                       | Aug. 17, 1999                        | <b>ENVIRONMENTAL INFRASTRUCTURE - CENTRAL, NM</b><br><br>Design and construction assistance for water-related environmental Infrastructure and resource protection and development projects to Include wastewater treatment and related facilities, water supply, Conservation, and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development. Federal costs under each local cooperation agreement shall be 75 percent in the form of grants or reimbursements. The non-Federal share of operation and maintenance costs shall be 100 percent. Authorized appropriation is \$25,000,000 available FY 2000 and remain available until expended. | Public Law 106-53,<br>106th Cong., (Sec.<br>593)  |

TABLE 36-C

**RIO GRANDE BASIN, NM**  
**RIO GRANDE BASIN, NM: EXISTING PROJECT**  
**(See Section 8 of Text)**

| Project                | River          | Miles<br>Above<br>Mouth | Nearest<br>Town | Drainage<br>Area (square<br>mile) | Description   | Total<br>Estimated<br>Cost |
|------------------------|----------------|-------------------------|-----------------|-----------------------------------|---|----------------------------|
| Abiquiu Dam            | Rio Chama      | 32                      | EspaZola, NM    | 2,147<br>1,212,000 af<br>capacity | Earthfill 325 feet high                                       | 30,901,028 <sup>3</sup>    |
| Jemez Canyon           | Jemez Creek    | 2                       | Bernalillo, NM  | 1,034<br>106,100 af<br>capacity   | Earthfill 136 feet high                                       | 6,293,972                  |
| Rio Grande<br>Floodway | Rio Grande     | 123<br>to 394           | -               |                                   | Channel rectification,<br>levee enlargement &<br>Construction | 25,744,000 <sup>2</sup>    |
| Cochiti Lake           | Rio Grande     | 340 <sup>1</sup>        | Cochiti, NM     | 11,695<br>596,300 af<br>capacity  | Earthfill 158 feet high                                       | 96,956,559                 |
| Galisteo Dam           | Galisteo Creek | 8                       | Waldo, NM       | 596<br>89,000 af<br>capacity      | Earthfill 158 feet high                                       | 17,807,053                 |

<sup>1</sup> River mile 0 is at intersection of New Mexico-Texas State line with international boundary at El Paso, Texas.

<sup>2</sup> Does not include non-Federal costs.

<sup>3</sup> Includes \$5,383,000 major rehabilitation, \$138,900 for recreation facilities, and \$3,600,000 for emergency gates.

TABLE 36-D

**OTHER AUTHORIZED FLOOD CONTROL PROJECTS**

| Project   | For Last<br>Full Report<br>See Annual<br>Report For | Cost to September 30, 2001 |                            |
|---|---|----------------------------|----------------------------|
|   |   | Construction               | Operation &<br>Maintenance |
| Alamogordo Diversion Channel, Tularosa (closed) Basin, New Mexico                               | 1966  | 189,356                    | -                          |
| Albuquerque Diversion Channels  | 1998  | 19,348,480                 | -                          |
| Alpine, Texas <sup>3</sup>  | 1977  | 130,488                    | -                          |
| Cibola Creek, Texas <sup>1</sup>  | 1983  | 829,500                    | -                          |
| Cochiti Wetfields, New Mexico   | 1994  | 13,921,290                 | -                          |
| Colorado Springs, Fountain que Bouille River, Colorado<br>(Templeton Gap Floodway) <sup>1</sup> | 1959  | 881,262                    | -                          |
| Creede, Willow Creek, Pueblo, Colorado <sup>1</sup>   | 1952  | 219,789                    | -                          |
| Fountain Creek, Pueblo, Colorado <sup>1</sup>   | 1993  | 6,564,399                  | -                          |
| Highway 12, Colorado <sup>1</sup>   | 1985  | 120,500                    | -                          |
| Holly, Colorado <sup>1</sup>  | 1985  | 2,021,400                  | -                          |
| Las Animas, Colorado <sup>2</sup>   | 1980  | 4,956,000                  | -                          |
| Las Cruces, New Mexico <sup>2</sup>   | 1980  | 4,815,236                  | -                          |
| Pecos, Texas <sup>3</sup>   | 1977  | 480,273                    | -                          |
| PiZon Canyon Dam, Trinidad, Colorado (Sec. 212) <sup>1</sup>                                    | -   | 130,678                    | -                          |
| Pueblo, Arkansas River, Colorado (floodway levee extension) <sup>0</sup>                        | 1954  | 201,958                    | -                          |
| Puerco River, Gallup, New Mexico <sup>1</sup>   | 1993  | 4,678,239                  | -                          |
| Rio Grande Floodway, T or C Unit, New Mexico <sup>1</sup>                                       | 1994  | 12,955,052                 | -                          |
| Santa Fe River and Arroyo Mascaras, New Mexico <sup>1</sup>                                     | 1983  | 1,123,900                  | -                          |
| Smith Creek, Colorado <sup>1</sup>  | 1985  | 219,000                    | -                          |
| Socorro Diversion Channel, Tributaries of Rio G, New Mexico <sup>1</sup>                        | 1965  | 2,259,328                  | -                          |

<sup>1</sup>Completed    <sup>2</sup>Responsibility of local interests    <sup>3</sup>Inactive    <sup>4</sup>Deferred